Vehicle Specifications

1500 GPM Pumper Specifications

Summerville Fire Department

Prepared by: Roger Wnek

INVITATION TO BID

Sealed bids will be received by the Town of Summerville Purchasing Agent until 2:00 p.m. on Thursday, 29th day of May, 2014 at which time the bids will be publicly opened and read. Opening will be held in the 2nd floor training room located at Town Hall Annex, 200 S. Main Street, Summerville, SC 29483.

Bids will be for the purpose of furnishing the Town of Summerville with one (1) new 1500 GPM Pumper Engine Package. A copy of the instructions to bidders is posted on the Townôs website www.summervillesc.sc.us.

The Town of Summerville reserves the right to reject any and all bids, to waive any informality and to award the contract, as it appears to be in the best interest of the Town of Summerville. The right is also reserved to hold any and all bids for a period not exceeding sixty (60) days from the opening thereof.

Questions concerning the equipment specifications may be directed to:

*Richard G. Waring IV, Fire Chief, Summerville Fire Department at rwaring4@summervillesc.gov; or

*Daniel Corbin, Maintenance Director, Town of Summerville at dcorbin@summervillesc.gov

All bids must be submitted to:

Bonnie Van Etten / Purchasing Agent
The Town of Summerville
200 South Main Street
Summerville, SC 29483

With the package marked as ñ1500 GPM Pumper Specificationsò

INTENT OF SPECIFICATIONS

It shall be the intent of these specifications to cover the furnishing and delivery of a complete fire apparatus. These detailed specifications cover the requirements as to the type of construction, finish, equipment and tests to which the fire apparatus shall conform. Minor details of construction and materials, which are not otherwise specified, are left to the discretion of the contractor.

Images and illustrative material in this specification are as accurate as known at the time of publication, but are subject to change without notice. Images and illustrative material is for reference only, and may include optional equipment and accessories and may not include all standard equipment.

INSTRUCTIONS TO BIDDERS

The purchaser's standards for bidding automotive fire apparatus must be strictly adhered to, and all bid forms and questions must be complete and submitted with the bid. Omissions and variations shall result in immediate rejection of the bid.

Bids shall only be considered from companies that have an established reputation in the field of fire apparatus construction and have been in business for a minimum of 20 years. Furthermore, in order to insure fair, ethical, and legal competition, neither the original equipment manufacturer (O.E.M.) nor parent company of the O.E.M. shall have ever been fined or convicted of price fixing, bid rigging, or collusion in any domestic or international fire apparatus market (No exception).

If a bidder represents more than one fire apparatus company or brands of apparatus, they must only bid the top of the line that meets specification.

Each bidder shall furnish satisfactory evidence of their ability to construct the apparatus specified.

Any apparatus manufacturer or their parent company that has had a performance bond called in the last 10 years shall not be eligible to bid. Any bids from these manufactures shall be immediately rejected. (No exception)

Each bid shall be accompanied by a set of manufacturer's set of specifications consisting of a detailed description of the apparatus, construction methods, and equipment proposed to which the apparatus furnished under contract shall conform. These specifications shall indicate size, type, model and make of all components parts and equipment, providing proof of compliance with each and every item in the departments advertised specifications. A letter only, even though written on company letterhead, shall not be sufficient. An exception to this requirement shall not be acceptable.

In accordance with the current edition of NFPA 1901 standards, the proposal shall specify whether the fire department or apparatus dealership shall provide required loose equipment.

The purchaser will utilize this advertised specification to compare all submitted bid proposals. To facilitate comparison, all bid proposal specifications shall be submitted in the same sequence as the advertised specification. Any bidder who fails to submit a set of bid proposal specifications, or who photo copies and submits these specifications as their own construction details will be considered non responsive. This shall render such proposal ineligible for award.

The purchaser's specification shall, in all cases, govern the construction of the apparatus, unless a properly documented exception or deviation was approved. Any bid indicating that the manufacturer's proposal shall supersede the purchaser's specification will be considered a complete substitute and immediately rejected.

THE PURCHASER HAS THE RIGHT TO REJECT ANY BIDS WHICH DOES NOT MEET THESE SPECIFICATIONS AND IS THE SOLE DECIDER TO DEEM WHICH BID IS IN THE BEST INTEREST OF THE PURCHASER.

EXCEPTIONS

These specifications are based upon design and performance criteria which have been developed by the fire department as a result of extensive research and careful analysis. Subsequently these specifications reflect the only type of fire apparatus that is acceptable at this time and all specifications herein contained are considered as minimum. Therefore exceptions to the specifications may not be accepted.

Bidders shall indicate in the "yes/no" column if their bid complies on each item (paragraph) specified.

If a product brand name is specified and is commercially available to all bidders, an exception to such items is not acceptable and such bid may be rejected.

Exceptions shall be allowed if they are equal to or superior to that specified and provided they are listed and fully explained on a separate page. All deviations, no matter how slight, shall be clearly explained on a separate sheet, in the bid sequence, citing the page and paragraph number(s) of the specifications, how the proposal deviation is different, how the deviation meets or exceeds the specifications and why it is necessary, and entitled "EXCEPTIONS TO SPECIFICATIONS". The buyer reserves the right to require a bidder to provide proof in each case that a substituted item is equal to that specified. The buyer shall be the sole judge in determination of acceptable substitutes.

Proposals that are found to have deviations without listing them or bids taking total exceptions to these advertised specifications will be rejected. (no exceptions)

Bids not including all exceptions are a material breach and shall result in the bid being immediately rejected. (no exceptions)

GENERAL DESIGN AND CONSTRUCTION

The cab, chassis, pump module and body are to be entirely designed, assembled and painted by the prime vehicle manufacturer, which minimizes third party involvement on engineering, design, service and warranty issues.

All bidders shall provide a list of the company, manufacturing location and engineering source for each individual major component, including but not limited to the welded cab assembly, the pump house module assembly, the chassis assembly, body and electrical system. Apparatus using any subcontracted cab, chassis, pump module, electrical system or body will not be acceptable.

The apparatus shall be designed with due consideration to distribution of load between the front and rear axles. Weight balance and distribution shall be in accordance with the recommendations of the National Fire Protection Association.

The bidder shall make accurate statements as to the apparatus weight and dimensions.

COMPLY_____ EXCEPTION_____

QUALITY AND WORKMANSHIP

All steel welding shall follow American Welding Society D1.1-2004 recommendations for structural steel welding. All aluminum welding shall follow American Welding Society and ANSI D1.2-2003 requirements for structural welding of aluminum. All sheet metal welding shall follow American Welding Society B2.1-2000 requirements for structural welding of sheet metal. Flux core arc welding to use alloy rods, type 7000, American Welding Society Standards A5.20-E70T1. Employees classified as welders are tested and certified to meet the American Welding Society codes upon hire and every three (3) years thereafter. The manufacturer shall be required to have an American Welding Society certified welding inspector in plant during working hours to monitor weld quality.

The manufacturer shall also be certified to operate a Quality Management System under the requirements of ISO 9001. These standards sponsored by the International organization for Standardization (ISO) specify the quality systems that shall be established by the manufacturer for design, manufacture, installation and service. A copy of the certificate of compliance shall be included with the bid.

To demonstrate the quality of the product and service, each bidder shall provide a list of at least ten (10) fire departments/municipalities in the region that have bought a second time from the representing dealer. An exception to this requirement shall not be acceptable.

COMPLY_____ EXCEPTION_____

DELIVERY

Apparatus, to insure proper break in of all components while still under warranty, shall be delivered under its own power - rail or truck freight shall not be acceptable. A qualified delivery representative shall deliver the apparatus and remain for a sufficient length of time to instruct personnel in proper operation, care and maintenance of the equipment delivered.

COMPLY_____ EXCEPTION_____

MANUALS AND SERVICE INFORMATION

The manufacturer shall supply at time of delivery, Two (2) complete operation, service, and parts manuals covering the complete apparatus as delivered. A permanent plate shall be mounted in the driverôs compartment which specifies the quantity and type of fluid required including engine oil, engine coolant, transmission, pump transmission lubrication, pump primer and drive axle.

COMPLY_____ EXCEPTION_____

SAFETY VIDEO

Since video is much more effective than written documentation and can be replayed for new personnel and as a refresher for existing personnel, an apparatus safety video, in DVD format shall be provided at time of delivery. This video shall address key safety considerations for personnel to follow when they are driving, operating, and maintaining the apparatus. Safety procedures for the following shall be included on the video: vehicle pre trip inspection, chassis operation, pump operation and maintenance.

COMPLY_____ EXCEPTION_____

PERFORMANCE TESTS AND REQUIREMENTS

A road test shall be conducted with the apparatus fully loaded and a continuous run of ten (10) miles or more shall be made under all driving conditions, during which time the apparatus shall show no loss of power or overheating. The transmission drive shaft or shafts and rear axle shall run quietly and be free from abnormal vibration or noise throughout the operating range of the apparatus. Vehicle shall adhere to the following parameters:

A) The apparatus, when fully equipped and loaded, shall have not less than 25 percent nor more than 50 percent of the weight on the front axle, and not less than 50 percent nor more than 75 percent on the rear axle.

B) The apparatus shall be capable of accelerating to 35 mph from a standing start within 25 seconds on a level concrete highway without exceeding the maximum governed rpm of the engine.

C) The service brakes shall be capable of stopping a fully loaded vehicle in 35 feet at 20 mph on a level concrete highway. The air brake system shall conform to Federal Motor Vehicle Safety Standards (FMVSS) 121.

D) The apparatus, fully loaded, shall be capable of obtaining a speed of 50 mph on a level concrete highway with the engine not exceeding the governed rpm (full load).

COMPLY_____ EXCEPTION_____

FAILURE TO MEET TEST

In the event the apparatus fails to meet the test requirements of these specifications on the first trial, second trials may be made at the option of the bidder within 30 days of the date of the first trial. Such trials shall be final and conclusive and failure to comply with these requirements shall be cause for rejection. Failure to comply with changes to conform to any clause of the specifications, within 30 days after notice is given to the bidder of such changes, shall also be cause for rejection of the apparatus. Permission to keep or store the apparatus in any building owned or occupied by the purchaser or its use by the purchaser during the above-specified period with the permission of the bidder shall not constitute acceptance.

SERVICE AND WARRANTY SUPPORT (DEALERSHIP)

TO INSURE FULL SERVICE AFTER DELIVERY, THE SELLING BIDDER/DEALERSHIP MUST BE CAPABLE OF PROVIDING SERVICE WHEN REQUIRED.

The bidder/dealership shall show that the company is in position to render prompt service and to furnish replacement parts.

Each bidder/dealership must be able to display that they are actively in the fire apparatus service business by operating a factory authorized service center and parts repository capable of satisfying the warranty service requirements and parts requirements of the vehicle(s) being purchased.

The bidder/dealership must state the location of this authorized service center. This service center must have a staff of factory-trained mechanics, well versed in all aspects of service for all major components of the apparatus. The service center must be within one hundred (100) miles of the Fire Department.

COMPLY_____ EXCEPTION_____

SERVICE AND WARRANTY SUPPORT (MANUFACTURER)

To provide an additional layer of service support, the successful manufacturer must also own at least two separate service facilities, one located in the northern portion of the US to service both Canada and the northern US states and one in the south to service the southern states.

The manufacturer shall stock 1 million parts equating to $5,000,000 of inventory dedicated to service and replacement parts to ensure quick response and minimize down time. Furthermore, the manufacturer shall house the inventory in a dedicated facility, with a dedicated shipping area that ensures service parts are given priority. The bidder shall provide detailed documentation of service and replacement part resources.

Parts identification shall be provided to both the dealer and the Fire Department through an online web based application for the specific truck reflected in this specification. Access will be granted using the specific VIN number of the vehicle. The online web application will provide the ability to view complete bills of materials, digital photographs, parts drawings, assembly drawings and access to all current operation, maintenance and service publications.

The manufacturer must also maintain a 24 hour/7 day a week, toll free emergency hot line.

The manufacturer shall employ a staff of adequate size (a minimum of 30 personnel) specifically dedicated to providing customer support and parts for the fielded fleet of vehicles it has produced.

The manufacturer must be capable of providing both in-house and on-site service for the apparatus.

The manufacturer shall offer regional factory hands-on repair and maintenance training classes.

The manufacturer shall employ a minimum of four certified EVT technicians on staff, not only providing technical expertise in the repair of fire apparatus, but also demonstrating the commitment to service after the sale.

COMPLY_____ EXCEPTION_____

LIABILITY

The successful bidder shall defend any and all suits and assume all liability for the use of any patented process including any device or article forming a part of the apparatus or any appliance furnished under the contract. To ensure this will occur, the bidder shall carry the following minimum insurance.

COMPLY_____ EXCEPTION_____

COMMERCIAL GENERAL LIABILITY INSURANCE

The successful bidder shall, during the performance of the contract and for three (3) years following acceptance of the product, keep in force at least the following minimum limits of commercial general liability insurance:

Each Occurrence$1,000,000

Products/Completed Operations Aggregate$1,000,000

Personal and Advertising Injury$1,000,000

General Aggregate$5,000,000

Coverage shall be written on a Commercial General Liability form. The policy shall be written on an occurrence form and shall include Contractual Liability coverage for bodily injury and property damage subject to the terms and conditions of the policy. The policy shall include Owner as an additional insured when required by written contract.

COMPLY_____ EXCEPTION_____

COMMERCIAL AUTOMOBILE LIABILITY INSURANCE

The successful bidder shall, during the performance of the contract keep in force at least the following minimum limits of commercial automobile liability insurance:

Each Accident Combined Single Limit: $1,000,000

Coverage shall be written on a Commercial Automobile liability form.

COMPLY_____ EXCEPTION_____

UMBRELLA/EXCESS LIABILITY INSURANCE

The successful bidder shall, during the performance of the contract and for three (3) years following acceptance of the product, keep in force at least the following minimum limits of umbrella liability insurance:

Aggregate: $25,000,000

Each Occurrence: $25,000,000

The umbrella policy shall be written on an occurrence basis and at a minimum provide excess to the Bidder's General Liability, Automobile Liability and Employer's Liability policies.

The required limits can be provided by one (1) or more policies provided all other insurance requirements are met.

Coverage shall be provided by a carrier(s) rated A- or better by A.M. Bests.

All policies shall provide a 30 day notice of cancellation to the named insured. The Certificate of Insurance shall provide the following cancellation clause: Should any of the above described polices be cancelled before the expiration date thereof, notice shall be delivered in accordance with the policy provisions. Bidder agrees to furnish owner with a current Certificate of Insurance with the coverage listed above along with its bid. The certificate shall show the purchaser as certificate holder.

COMPLY_____ EXCEPTION_____

SINGLE SOURCE MANUFACTURER

Bids shall only be accepted from a single source apparatus manufacturer. The definition of single source is a manufacturer that designs and manufactures their products using an integrated approach, including the chassis, cab weldment, cab, pump house (including the sheet metal enclosure, valve controls, piping and operators panel) and body being designed, fabricated, and assembled on the bidder's premises. The electrical system (hardwire or multiplex) shall be both designed and integrated by the same apparatus manufacturer. The warranties relative to these major components (excluding component warranties such as engine, transmission, axles, pump,

etc.) must be from a single source manufacturer and not split between manufacturers (i.e. body, pump house, cab weldment and chassis). The bidder shall provide evidence that they comply with this requirement.

The bidder shall state the location of the factory where the apparatus is to be built.

COMPLY_____ EXCEPTION_____

NFPA 2009 STANDARDS

This unit shall comply with the NFPA standards effective January 1, 2009, except for fire department specifications that differ from NFPA specifications. These exceptions shall be set forth in the Statement of Exceptions.

Certification of slip resistance of all stepping, standing and walking surfaces shall be supplied with delivery of the apparatus.

A plate that is highly visible to the driver while seated shall be provided. This plate shall show the overall height, length, and gross vehicle weight rating.

The manufacturer shall have programs in place for training, proficiency testing and performance for any staff involved with certifications.

An official of the company shall designate, in writing, who is qualified to witness and certify test results.

COMPLY_____ EXCEPTION_____

NFPA COMPLIANCY

Apparatus proposed by the bidder shall meet the applicable requirements of the National Fire Protection Association (NFPA) as stated in the current edition at time of contract execution. Fire Department's specifications that differ from NFPA specifications shall be indicated in the proposal as "non-NFPA."

COMPLY_____ EXCEPTION_____

PUMP TEST

The rated water pump shall be tested, approved and certified by an ISO certified independent third party testing agency at the manufacturer's expense. The test results, along with the pump

manufacturer's certification of hydrostatic test, the engine manufacturer's certified brake horsepower curve, and the manufacturer's record of pump construction details shall be forwarded to the Fire Department.

COMPLY_____ EXCEPTION_____

GENERATOR TEST

If the unit has a generator, the generator shall be tested, approved and certified by an ISO certified independent third party testing agency at the manufacturer's expense. The test results shall be provided to the Fire Department at the time of delivery.

COMPLY_____ EXCEPTION_____

BID BOND

All bidders shall provide a bid bond as security for the bid in the form of a 10% bid bond to accompany their bid. This bid bond shall be issued by a Surety Company who is listed on the U.S. Treasury Departmentôs list of acceptable sureties as published in Department Circular 570. The bid bond shall be issued by an authorized representative of the Surety Company and shall be accompanied by a certified power of attorney dated on or before the date of bid. The bid bond shall include language, which assures that the bidder/principal shall give a bond or bonds as may be specified in the bidding or contract documents, with good and sufficient surety for the faithful performance of the contract, including the Basic One (1) Year Limited Warranty, and for the prompt payment of labor and material furnished in the prosecution of the contract.

Proposals received from bidders who do not manufacture the chassis shall provide a warranty that shall be issued jointly and severally by, and signed by, both the bidder and the chassis manufacturer.

If the successful bidder does not manufacture the chassis, the bidder shall supply a warranty bond, in addition to their performance bond, along with their signed contract. This warranty bond shall guarantee all terms and conditions of the Basic One (1) Year Limited Warranty and names both the bidder and chassis manufacturer as co-principals. This warranty bond shall be issued for the contract amount and shall remain in force for a term which is consistent with the term of the Basic One (1) Year Limited Warranty.

Notwithstanding any document or assertion to the contrary, any surety bond related to the sale of a vehicle shall apply only to the Basic One (1) Year Limited Warranty for such vehicle. Any surety bond related to the sale of a vehicle shall not apply to any other warranties that are included within this bid (OEM or otherwise) or to the warranties (if any) of any third party of

any part, component, attachment or accessory that is incorporated into or attached to the vehicle. In the event of any contradiction or inconsistency between this provision and any other document or assertion, this provision shall prevail.

COMPLY_____ EXCEPTION_____

PERFORMANCE BOND, NOT REQUESTED

A performance bond shall not be included. If requested at a later date, one shall be provided to you for an additional cost and the following shall apply:

The successful bidder shall furnish a Performance and Payment bond (Bond) equal to 100 percent of the total contract amount within 30 days of the notice of award. Such Bond shall be in a form acceptable to the Owner and issued by a surety company included within the Department of Treasury's Listing of Approved Sureties (Department Circular 570) with a minimum A.M. Best Financial Strength Rating of A and Size Category of XV. In the event of a bond issued by a surety of a lesser Size Category, a minimum Financial Strength rating of A+ is required.

Bidder and Bidder's surety agree that the Bond issued hereunder, whether expressly stated or not, also includes the surety's guarantee of the vehicle manufacturer's Bumper to Bumper warranty period included within this proposal. Owner agrees that the penal amount of this bond shall be simultaneously amended to 25 percent of the total contract amount upon satisfactory acceptance and delivery of the vehicle(s) included herein. Notwithstanding anything contained within this contract to the contrary, the surety's liability for any warranties of any type shall not exceed three (3) years from the date of such satisfactory acceptance and delivery, or the actual Bumper to Bumper warranty period, whichever is shorter.

COMPLY_____ EXCEPTION_____

APPROVAL DRAWING

A drawing of the proposed apparatus shall be provided for approval before construction begins. The sales representative shall also have a copy of the same drawing. The finalized and approved drawing shall become part of the contract documents. This drawing shall indicate the chassis make and model, location of the lights, siren, horns, compartments, major components, etc.

A "revised" approval drawing of the apparatus shall be prepared and submitted by the manufacturer to the purchaser showing any changes made to the approval drawing.

COMPLY_____ EXCEPTION_____

ELECTRICAL WIRING DIAGRAMS

Two (2) electrical wiring diagrams, prepared for the model of chassis and body, shall be provided.

COMPLY_____ EXCEPTION_____

CONSTRUCTION PROGRESS PHOTOS

Weekly photographs of the apparatus or the major components as they are being constructed shall be provided. The photos shall commence at the beginning of the manufacturing process and shall continue until just prior to the final inspection. There shall be approximately six (6) weekly reports illustrating the progress of the apparatus through the course of each week. Special attention shall be given to show the unique features and aspects of the apparatus as construction progresses.

COMPLY_____ EXCEPTION_____

SOUTH CAROLINA DEALER LICENSE

Each bidder must provide with bid a valid and current copy of their South Carolina Dealer License as issued by the South Carolina Department of Motor Vehicles. This license requirement is to assure the bidder is legally authorized to engage in the Sale of motor vehicles within the State of South Carolina.

COMPLY_____ EXCEPTION_____

LOCAL SERVICE FACILITY

Each bidder must provide with bid proof of dealer owned and operated Service Facility located within the State of South Carolina along with factory trained service personnel. Service personnel shall be factory trained to handle parts and warranty repair for their respective

manufacturer. In addition, local Service Facility must have the capability to dispatch factory trained service technicians with dealer operated mobile service units to Department location for field service repairs.

COMPLY_____ EXCEPTION_____

DEALER GARAGE LIABILITY

Bidder must provide at time of bid proof of dealer garage liability insurance with minimum coverage of $1,000,000.00.

COMPLY_____ EXCEPTION_____

PRE CONSTRUCTION TRIP

All bidders shall provide a Pre-Construction trip to the manufacturing facility for (3) Three Fire Department personnel. Travel expenses, meals, lodging shall be included.

COMPLY_____ EXCEPTION_____

FINAL INSPECTION

All bidder shall provide a Final Inspection trip to the manufacturing facility for (3) Three Fire Department personnel. Travel expenses, meals, lodging shall be included.

COMPLY_____ EXCEPTION_____

ORIENTATION TRAINING

There shall be one (1) class held at the Fire Department by a factory certified trainer. The class shall consist of basic orientation of the apparatus and shall last approximately 3 hours. The class shall cover basic operations of cab, chassis, pump, aerial and body components that are included on the new apparatus.

COMPLY_____ EXCEPTION_____

CHASSIS

Chassis provided shall be a new, tilt-type custom fire apparatus. The chassis shall be manufactured in the apparatus body builder's facility eliminating any split responsibility. The chassis shall be designed and manufactured for heavy-duty service, with adequate strength and capacity for the intended load to be sustained and the type of service required.

COMPLY_____ EXCEPTION_____

WHEELBASE

The wheelbase of the vehicle shall be no greater than 184.50".

COMPLY_____ EXCEPTION_____

GVW RATING

The gross vehicle weight rating shall be a minimum of 42,000.

COMPLY_____ EXCEPTION_____

FRAME

The chassis frame shall be built with two (2) steel channels bolted to four (4) cross members or more, depending on other options of the apparatus. The side rails shall be heat-treated steel measuring 10.25" x 3.00" x .31".

Each rail shall have a section modulus of 12.00 $in.^3$, yield strength of 120,000 psi, and a resisting bending moment (rbm) of 1,455,816 inch-pounds.

Any cross members within the area of the pump must be spaced out so that there will be enough room to service and remove a pump gearbox.

COMPLY_____ EXCEPTION_____

FRAME REINFORCEMENT

A full-length mainframe "C" liner shall be provided.

The liner shall be an internal "C" design, heat-treated steel measuring 9.35" x 3.10" x .25". Each reinforcement member shall have a section modulus of 3.90 $in.^3$, yield strength of 120,000 psi and resisting bending moment (rbm) of 938,762 in-lb.

COMPLY_____ EXCEPTION_____

FRONT AXLE

The front axle shall be a reverse "I" beam type with inclined king pins. It shall be a MeritorÊ axle, Model FL-941, with a rated capacity of 18,000 lb.

COMPLY_____ EXCEPTION_____

FRONT SUSPENSION

The front springs shall be a Standens, three (3)-leaf, taper leaf design, 54.00" long x 4.00" wide, with a ground rating of 18,000 lb.

The two (2) top leaves shall wrap the forward spring hanger pin. The top leaf shall also wrap the rear spring hanger pin. Both the front and rear eyes shall be Berlin style wraps that shall place the eyes in the horizontal plane within the main leaf. This shall reduce bending stress from acceleration and braking.

A steel encased rubber bushing shall be used in the spring eye. The steel encased rubber bushing shall be maintenance free and require no lubrication.

COMPLY_____ EXCEPTION_____

SHOCK ABSORBERS

Heavy-duty telescoping shock absorbers shall be provided on the front axle.

COMPLY_____ EXCEPTION_____

FRONT OIL SEALS

Oil seals with viewing window shall be provided on the front axle.

COMPLY_____ EXCEPTION_____

FRONT TIRES

Front tires shall be Goodyear 315/80R22.50 radials, 18 ply G291 tread, rated for 16,540 lb maximum axle load and 75 mph maximum speed.

The tires shall be mounted on Alcoa 22.50" x 9.00" polished aluminum disc wheels with a ten (10)-stud, 11.25" bolt circle.

COMPLY_____ EXCEPTION_____

REAR AXLE

The rear axle shall be a MeritorÊ , Model RS-25-160, with a capacity of 27,000 lb.

COMPLY_____ EXCEPTION_____

TOP SPEED OF VEHICLE

A rear axle ratio shall be furnished to allow the vehicle to reach a top speed of 68 MPH.

COMPLY_____ EXCEPTION_____

REAR SUSPENSION

The rear suspension shall be Standens, semi-elliptical, 3.00" wide x 53.00" long, 12-leaf pack with a ground rating of 27,000 lbs. The spring hangers shall be castings.

The two (2) top leaves shall wrap the forward spring hanger pin, and the rear of the spring shall be a slipper style end that shall ride in a rear slipper hanger. To reduce bending stress due to acceleration and braking, the front eye shall be a berlin eye that shall place the front spring pin in the horizontal plane within the main leaf.

A steel encased rubber bushing shall be used in the spring eye. The steel encased rubber bushing shall be maintenance free and require no lubrication.

COMPLY_____ EXCEPTION_____

REAR OIL SEALS

Oil seals shall be provided on the rear axle.

COMPLY_____ EXCEPTION_____

REAR TIRES

Rear tires shall be four (4) Goodyear 12R22.50 radials, 16 ply all season G622 RSD tread, rated for 27,120 lb maximum axle load and 75 mph maximum speed.

The tires shall be mounted on Alcoa 22.50" x 8.25" polished aluminum disc wheels with a ten (10)-stud 11.25" bolt circle.

COMPLY_____ EXCEPTION_____

TIRE BALANCE

All tires shall be balanced with Counteract balancing beads. The beads shall be inserted into the tire and eliminate the need for wheel weights.

COMPLY_____ EXCEPTION_____

TIRE PRESSURE MANAGEMENT

There shall be a VECSAFE LED tire alert pressure management system provided that shall monitor each tire's pressure. A chrome plated brass sensor shall be provided on the valve stem of each tire for a total of six (6) tires.

The sensor shall calibrate to the tire pressure when installed on the valve stem for pressures between 20 and 120 psi. The sensor shall activate an integral battery operated LED when the pressure of that tire drops eight (8) psi.

Removing the cap from the sensor shall indicate the functionality of the sensor and battery. If the sensor and battery are in working condition, the LED shall immediately start blinking.

COMPLY_____ EXCEPTION_____

HUB COVERS (FRONT)

Stainless steel hub covers shall be provided on the front axle. An oil level viewing window shall be provided.

COMPLY_____ EXCEPTION_____

HUB COVERS (REAR)

A pair of stainless steel high hat hub covers shall be provided on rear axle hubs.

COMPLY_____ EXCEPTION_____

CHROME LUG NUT COVERS

Chrome lug nut covers shall be supplied on front and rear wheels.

COMPLY_____ EXCEPTION_____

MUD FLAPS

Mud flaps shall be installed behind the front and rear wheels of the apparatus.

COMPLY_____ EXCEPTION_____

WHEEL CHOCKS, WHEEL CHOCK BRACKETS

NFPA 1901, 2009 edition, section 5.8.3 requires two or more wheel chocks mounted in readily accessible locations, that together shall hold the apparatus, when loaded to its GVWR or GCWR, on a hard surface with a 20 percent grade with the transmission in neutral and the parking brake released.

Two (2) Zico Model SAC-44 wheel ñchocksò with SQCH-44-V holders shall be furnished and installed. The location to be installed shall be determined at the pre-construction conference.

COMPLY_____ EXCEPTION_____

ANTI-LOCK BRAKE SYSTEM

The vehicle shall be equipped with a Wabco 4S4M, anti-lock braking system. The ABS shall provide a four (4) channel anti-lock braking control on both the front and rear wheels. A digitally controlled system that utilizes microprocessor technology shall control the anti-lock braking system. Each wheel shall be monitored by the system. When any particular wheel begins to lockup, a signal shall be sent to the control unit. This control unit then shall reduce the braking of that wheel for a fraction of a second and then reapply the brake. This anti-lock brake system shall eliminate the lockup of any wheel thus helping to prevent the apparatus from skidding out of control.

COMPLY_____ EXCEPTION_____

BRAKES

The service brake system shall be full air type by MeritorÊ .

Front brakes shall be EX225 Disc Plus, disc type with automatic pad wear adjustment and 17.00" ventilated rotors for improved stopping distance.

The rear brakes shall be MeritorÊ , Disc Plus, Model EX225 disc operated with automatic slack adjusters and a 17.00" ventilated rotor for improved stopping distance.

COMPLY_____ EXCEPTION_____

AIR COMPRESSOR, BRAKE SYSTEM

The air compressor shall be a Cummins/Wabco with 18.7 cubic feet per minute output.

COMPLY_____ EXCEPTION_____

BRAKE SYSTEM

The brake system shall include:

Å Bendix brake treadle valve with vinyl covered foot surface

Å Heated automatic moisture ejector on air dryer

Å Total air system minimum capacity of 5,376 cubic inches

Å Two (2) air pressure gauges with a red warning light and an audible alarm, that activates when air pressure falls below 60 psi

Å Spring set parking brake system

Å Parking brake operated by a push-pull style control valve

Å A parking "brake on" indicator light on instrument panel

Å Park brake relay/inversion and anti-compounding valve, in conjunction with a double check valve system, shall be provided with an automatic spring brake application at 40 psi

The air tank shall be primed and painted to meet a minimum 750 hour salt spray test.

To reduce the effects of corrosion, the air tank shall be mounted with stainless steel brackets. (no exception).

Å Wabco System Saver 1200 IWT, air dryer with internal wet tank and spin-on coalescing filter cartridge

Å 100 Watt Heater from preventing air lines from freezing in cold weather.

COMPLY_____ EXCEPTION_____

BRAKE LINES

Color-coded nylon brake lines shall be provided. The lines shall be wrapped in a heat protective loom where necessary in the chassis.

COMPLY_____ EXCEPTION_____

MANUAL MOISTURE EJECTOR(S)

One (1) manual moisture ejector shall be installed in the brake system.

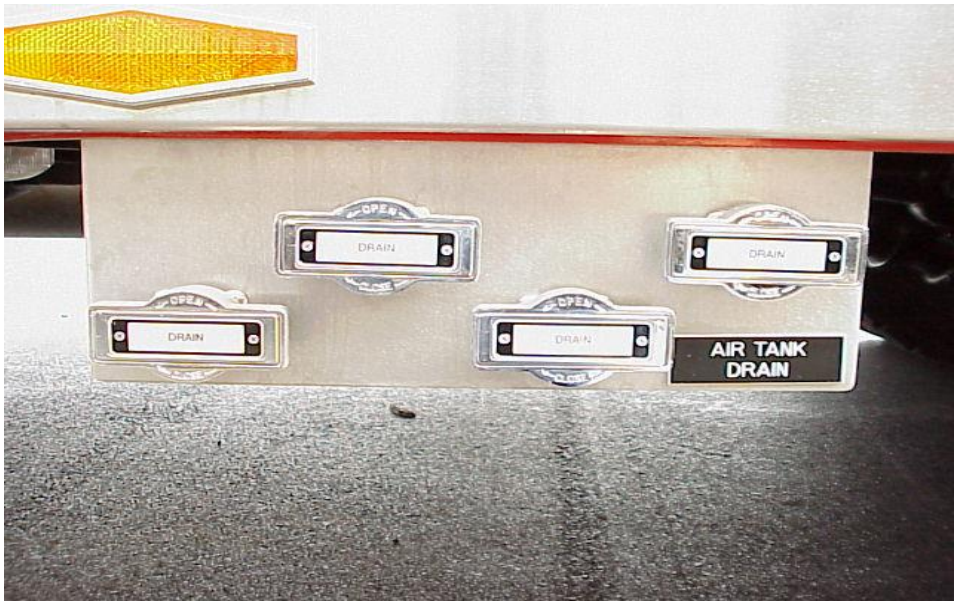
The moisture ejector shall be remote mounted on the driver side of vehicle, as close to the edge of vehicle as possible.

A loop shall be provided at the moisture ejector, to allow for ease of pulling the drain.

Each moisture ejector shall have a label directly under the ejector, stating air tank drain.

Nylon tubing, .38" diameter, shall be routed from the air tank to the moisture ejector. The nylon tubing shall be covered with protective split loom.

The moisture ejector(s) shall be provided. Manual drains shall be installed on all reservoirs of the air brake system. All drains shall be extended to the driver side to the front of the apparatus body with stainless steel cables and located below the rub rail area. Please reference the picture for air tank drain location.



COMPLY_____ EXCEPTION_____

ENGINE

The chassis shall be powered by an electronically controlled engine as described below:

Make:Cummins

Model: ISL9

Power: 450 hp. at 2100 rpm

Torque: 1250 lb.-ft. at 1400 rpm

Governed Speed: 2200 rpm

Emissions Level: EPA 2013

Fuel: Diesel

Cylinders: Six (6)

Displacement: 543 cubic inches (8.9L)

Starter: Delco 39MT

Fuel Filters: Spin-on style primary filter with water separator and water-in-fuel sensor. Secondary spin-on style filter.

Coolant Filter: Spin-on style with shut off valves on the supply and return line.

The engine shall include On-board diagnostics (OBD), which provides self-diagnostic and reporting. The system shall give the owner or repair technician access to state of health information for various vehicle sub systems. The system shall monitor vehicle systems, engine and after treatment. The system shall illuminate a malfunction indicator light on the dash console if a problem is detected.

COMPLY_____ EXCEPTION_____

HIGH IDLE

A high idle switch shall be provided, inside the cab, on the instrument panel, that shall automatically maintain a preset engine rpm. A switch shall be installed, at the cab instrument panel, for activation/deactivation.

The high idle shall be operational only when the parking brake is on and the truck transmission is in neutral. A green indicator light shall be provided, adjacent to the switch. The light shall

illuminate when the above conditions are met. The light shall be labeled "OK to Engage High Idle."

COMPLY_____ EXCEPTION_____

ENGINE BRAKE

A Jacobs engine brake is to be installed with the controls located on the instrument panel within easy reach of the driver.

The driver shall be able to turn the engine brake system on/off and have a high, medium and low setting.

The engine brake shall activate when the system is on and the throttle is released.

The high setting of the brake application shall activate and work simultaneously with the variable geometry turbo (VGT) provided on the engine.

The engine brake shall be installed in such a manner that when the engine brake is slowing the vehicle the brake lights are activated.

The ABS system shall automatically disengage the auxiliary braking device, when required.

COMPLY_____ EXCEPTION_____

CLUTCH FAN

A fan clutch shall be provided. The fan clutch shall be automatic when the pump transmission is in "Road" position, and constantly engaged when in "Pump" position.

COMPLY_____ EXCEPTION_____

ENGINE AIR INTAKE

The engine air intake shall be located above the engine cooling package. It shall draw fresh air from the front of the apparatus through the radiator grille.

A stainless steel metal screen shall be installed at the inlet of the air intake system that shall meet NFPA 1901 requirements.

The air cleaner and stainless steel screen shall be easily accessible by tilting the cab.

COMPLY_____ EXCEPTION_____

EXHAUST SYSTEM

The exhaust system shall be stainless steel from the turbo to the inlet of the selective catalytic reduction (SCR) device, and shall be 4.00" in diameter. The exhaust system shall include a diesel particulate filter (DPF) and an SCR device to meet current EPA standards. An insulation wrap shall be provided on all exhaust pipe between the turbo and SCR to minimize the transfer of heat to the cab. The exhaust shall terminate horizontally ahead of the passenger side rear wheels. A tailpipe diffuser shall be provided to reduce the temperature of the exhaust as it exits. Heat deflector shields shall be provided to isolate chassis and body components from the heat of the tailpipe diffuser.

COMPLY_____ EXCEPTION_____

EXHAUST MODIFICATION

The exhaust pipe shall be brought out from under the body at a 90 degree angle from the truck. The tail pipe shall extend a minimum of 2.00" past the body, adaptable for the Plymovent system. The diameter of the pipe shall be 6.00". There shall be a clearance of 4.00" completely around the pipe once past the side of the body. A stop shall be provided on the tail pipe that shall prevent the nozzle from sliding too far on. Please refer to the pictures shown below to match current Summerville Fire Department apparatus:

COMPLY_____ EXCEPTION_____

RADIATOR

The radiator and the complete cooling system shall meet or exceed NFPA and engine manufacturer cooling system standards. The cooling system capacity shall exceed all cooling requirements specified by the engine manufacturer under all truck operating conditions.

For maximum corrosion resistance and cooling performance, the entire radiator core shall be constructed using long life aluminum alloy. The radiator core shall consist of aluminum fins, having a serpentine design, brazed to aluminum tubes. No solder joints or leaded material of any kind shall be acceptable in the core assembly.

The radiator core shall have a minimum front area of 1060 square inches.

Supply and return tanks shall be made of heavy duty glass-reinforced nylon that shall be crimped onto the core assembly using header tabs and a compression gasket to complete the radiator core assembly. There shall be a full steel frame around the inserts to enhance cooling system durability and reliability.

The radiator shall be compatible with commercial antifreeze solutions. The radiator assembly shall be isolated from the chassis frame rails with rubber isolators to prevent the development of leaks caused by twisting or straining when the apparatus operates over uneven terrain.

The radiator shall include a deaeration/expansion tank. For visual coolant level inspection, the radiator shall have a built-in sight glass. The radiator shall be equipped with a 15 psi pressure relief cap.

A drain port shall be located at the lowest point of the cooling system and/or the bottom of the radiator to permit complete flushing of the coolant from the system.

Shields or baffles shall be provided to prevent recirculation of hot air to the inlet side of the radiator.

COMPLY_____ EXCEPTION_____

COOLANT LINES

Silicone hoses shall be used for all engine/heater coolant lines installed by the chassis manufacturer.

Hose clamps shall be stainless steel constant torque type to prevent coolant leakage. They shall react to temperature changes in the cooling system and expand or contract accordingly while maintaining a constant clamping pressure on the hose.

COMPLY_____ EXCEPTION_____

FUEL TANK

A 65-gallon fuel tank shall be provided and mounted at the rear of the chassis. The tank shall be constructed of 12-gauge, hot rolled steel. It shall be equipped with swash partitions and a vent. To eliminate the effects of corrosion, the fuel tank shall be mounted with stainless steel straps. (no exception).

A .75" drain plug shall be provided in a low point of the tank for drainage.

A fill inlet shall be located on the left hand side of the body and be covered with a hinged, spring loaded, stainless steel door that is marked "Ultra Low Sulfur - Diesel Fuel Only."

A .50" diameter vent shall be provided running from top of tank to just below fuel fill inlet.

The tank shall meet all FHWA 393.67 requirements including a fill capacity of 95 percent of tank volume.

All fuel lines shall be provided as recommended by the engine manufacturer.

COMPLY_____ EXCEPTION_____

DIESEL EXHAUST FLUID TANK

A 4.5 gallon diesel exhaust fluid (DEF) tank shall be provided and mounted in the driver's side body rearward of the rear axle. The tank shall be constructed of 16-gauge type 304- L stainless steel.

A .50" drain plug shall be provided in a low point of the tank for drainage.

A fill inlet shall be provided and marked "Diesel Exhaust Fluid Only". The fill inlet shall be located adjacent to the engine fuel inlet behind a common hinged, spring loaded, stainless steel door on the driver side of the vehicle.

The tank shall meet the engine manufacturerôs requirement for 10 percent expansion space in the event of tank freezing.

The tank shall include an integrated heater unit that utilizes engine coolant to thaw the DEF in the event of freezing.

COMPLY_____ EXCEPTION_____

FUEL COOLER

An air to fuel cooler shall be installed in the engine fuel return line.

COMPLY_____ EXCEPTION_____

TRANSMISSION

An Allison 5th generation, model EVS 3000P, electronic torque converting automatic transmission shall be provided.

The transmission shall be equipped with prognostics to monitor oil life, filter life, and transmission health. A wrench icon on the shift selector's digital display shall indicate when service is due.

Two (2) PTO openings shall be located on left side and top of converter housing (positions 9 o'clock and 3 o'clock).

A transmission temperature gauge with red light and audible alarm shall be installed on the cab dash.

COMPLY_____ EXCEPTION_____

TRANSMISSION SHIFTER

A five (5)-speed push button shift module shall be mounted to right of driver on console. Shift position indicator shall be indirectly lit for after dark operation.

The transmission ratio shall be 1st - 3.49 to 1.00, 2nd - 1.86 to 1.00, 3rd - 1.41 to 1.00, 4th - 1.00 to 1.00, 5th - 0.75 to 1.00, R - 5.03 to 1.00.

COMPLY_____ EXCEPTION_____

TRANSMISSION COOLER

A Modine plate and fin transmission oil cooler shall be provided using engine coolant to control the transmission oil temperature.

COMPLY_____ EXCEPTION_____

DRIVELINE

Drivelines shall be a heavy-duty metal tube and be equipped with Spicer 1710 universal joints.

The shafts shall be dynamically balanced before installation.

A splined slip joint shall be provided in each driveshaft, slip joint shall be coated with Glidecoat or equivalent.

COMPLY_____ EXCEPTION_____

STEERING

Steering gear with integral heavy-duty power steering, shall be provided. For reduced system temperatures, the power steering shall incorporate an air to oil cooler and hydraulic pump with integral pressure and flow control. All power steering lines shall have wire braded lines with crimped fittings.

A tilt and telescopic steering column shall be provided to improve fit for a broader range of driver configurations.

COMPLY_____ EXCEPTION_____

STEERING WHEEL

The steering wheel shall be 18.00" in diameter, have tilting and telescoping capabilities, and a two (2)-spoke design.

COMPLY_____ EXCEPTION_____

LOGO AND CUSTOMER DESIGNATION ON HORN BUTTON

The steering wheel shall have an emblem containing the fire apparatus manufacturer's logo and customer name. The emblem shall have three (3) rows of text for the customer's department name. There shall be a maximum of eight (8) characters in the first row, 11 characters in the second row and 11 characters in the third row.

The first row of text shall be: Summerville

The second row of text shall be: Fire

The third row of text shall be: Department

BUMPER

A one (1)-piece, ten (10) gauge, 304-2B type polished stainless steel bumper, a minimum of 10.00" high, shall be attached to a bolted modular extension frame constructed of 50,000 psi tensile steel "C" channel mounted directly behind it to provide adequate support strength.

The bumper shall be extended 19.00" from front face of cab.

Documentation shall be provided, upon request to show that the options selected have been engineered for fit-up and approval for this modular bumper extension. A chart shall be provided to indicate the option locations and shall include, but not be limited to the following options: air horns, mechanical sirens, speakers, hose trays (with hose capacities), winches, lights, discharge, and suction connections.

COMPLY_____ EXCEPTION_____

GRAVEL PAN

A gravel pan, constructed of bright aluminum tread plate, shall be furnished between the bumper and cab face. The gravel pan shall be properly supported from the underside to prevent flexing and vibration of the aluminum tread plate.

COMPLY_____ EXCEPTION_____

HOSE TRAY

A hose tray, constructed of aluminum, shall be placed in the center of the bumper extension.

The tray shall have a capacity of 150' of 1.75" double jacket cotton-polyester hose. Black rubber grating shall be provided at the bottom of the tray. Drain holes are also provided.

COMPLY_____ EXCEPTION_____

HOSE TRAY COVER

A bright aluminum tread plate cover shall be provided over the center hose tray.

The cover shall be attached with a stainless steel hinge and located Center tray.

A D-ring latch shall secure the cover in the closed position and a pneumatic stay arm on each side shall hold the cover in the open position.

COMPLY_____ EXCEPTION_____

AIR HORN SYSTEM

Two (2) Grover Stuttertone air horns will be provided and located in the front bumper, recessed One (1) each side. The horn system will be piped to the air brake system wet tank utilizing .38" tubing. A pressure protection valve will be installed in-line to prevent loss of air in the air brake system.

COMPLY_____ EXCEPTION_____

AIR HORN CONTROL

Two (2) lanyard rope pull controls will be provided, one (1) within reach of the driver and one (1) within reach of the officer.

COMPLY_____ EXCEPTION_____

TOW HOOKS

Two (2) chromed steel tow hooks shall be installed under the bumper and attached to the front frame members. The tow hooks shall be designed and positioned to allow up to a 6,000 pound straight horizontal pull in line with the centerline of the vehicle. The tow hooks shall not be used for lifting of the apparatus.

COMPLY_____ EXCEPTION_____

CAB

The cab shall be designed specifically for the fire service and manufactured by the chassis builder.

The cab shall be built by the apparatus manufacturer in a facility located on the manufacturer's premises to also include weldment. (no exception).

For reasons of structural integrity and enhanced occupant protection, the cab shall be a heavy duty design, constructed to the following minimal standards.

The cab shall have 12 main vertical structural members located in the A-pillar (front cab corner posts), B-pillar (side center posts), C-pillar (rear corner posts), and rear wall areas. The A-pillar shall be constructed of solid A356-T5 aluminum castings. The B-pillar and C-pillar shall be constructed from 0.13" wall extrusions. The rear wall shall be constructed of two (2) 2.00" x 2.00" outer aluminum extrusions and two (2) 2.00" x 1.00" inner aluminum extrusions. All main vertical structural members shall run from the floor to 4.625" x 3.864" x 0.090" thick roof extrusions to provide a cage-like structure with the A-pillar and roof extrusions being welded into a 0.25" thick corner casting at each of the front corners of the roof assembly.

The front of the cab shall be constructed of a 0.13" firewall plate, covered with a 0.090" front skin (for a total thickness of 0.22"), and reinforced with a full width x 0.50" thick cross-cab support located just below the windshield and fully welded to the engine tunnel. The cross-cab support shall run the full width of the cab and weld to each A-pillar, the 0.13" firewall plate, and the front skin.

The cab floors shall be constructed of 0.125" thick aluminum plate and reinforced at the firewall with an additional 0.25" thick cross-floor support providing a total thickness of 0.375" of structural material at the front floor area. The front floor area shall also be supported with two (2) triangular 0.30" wall extrusions that also provide the mounting point for the cab lift. This tubing shall run from the floor wireway of the cab to the engine tunnel side plates, creating the structure to support the forces created when lifting the cab.

The cab shall be 96.00" wide (outside door skin to outside door skin) to maintain maximum maneuverability (no exception).

The forward cab section shall have an overall height (from the cab roof to the ground) of approximately 99.00". The crew cab section shall have a 10.00" raised roof, with an overall cab height of approximately 109.00". The overall height listed shall be calculated based on a truck configuration with the lowest suspension weight rating, the smallest diameter tires for the suspension, no water weight, no loose equipment weight, and no personnel weight. Larger tires, wheels, and suspension shall increase the overall height listed.

The floor to ceiling height inside the crew cab shall be 64.50" in the center and outboard positions.

The crew cab floor shall measure 46.00" from the rear wall to the back side of the rear facing seat risers.

The engine tunnel, at the rearward highest point (knee level), shall measure 62.00" to the rear wall.

The crew cab shall be a totally enclosed design with the interior area completely open to improve visibility and verbal communication between the occupants.

The cab shall be a full tilt cab style.

A three (3)-point cab mount system with rubber isolators shall improve ride quality by isolating chassis vibrations from the cab.

The cab and crew cab flooring shall be constructed with bright aluminum treadplate.

COMPLY_____ EXCEPTION_____

INTERIOR CAB INSULATION

The cab shall include 1.00" insulation in the ceiling, 1.50" insulation in the side walls, and 2.00" insulation in the rear wall to maximize acoustic absorption and thermal insulation.

COMPLY_____ EXCEPTION_____

FENDER LINERS

Full circular inner fender liners in the wheel wells shall be provided.

COMPLY_____ EXCEPTION_____

WINDSHIELD

A one (1)-piece safety glass windshield shall be provided with over 2,775 square inches of clear viewing area. The windshield shall be full width and shall provide the occupants with a panoramic view. The windshield shall consist of three (3) layers: outer light, middle safety laminate, and inner light. The outer light layer shall provide superior chip resistance. The middle safety laminate layer shall prevent the windshield glass pieces from detaching in the event of breakage. The inner light shall provide yet another chip resistant layer. The cab windshield shall be bonded to the aluminum windshield frame using a urethane adhesive. A

custom frit pattern shall be applied on the outside perimeter of the windshield for a finished automotive appearance.

COMPLY_____ EXCEPTION_____

WINDSHIELD WIPERS

Three (3) electric windshield wipers with washer shall be provided that meet FMVSS and SAE requirements.

The washer reservoir shall be able to be filled without raising the cab.

COMPLY_____ EXCEPTION_____

ENGINE TUNNEL

Engine hood side walls shall be constructed of 0.375" aluminum. The top shall be constructed of 0.125" aluminum and shall be tapered at the top to allow for more driver and passenger elbow room.

The engine hood shall be insulated for protection from heat and sound. The noise insulation keeps the dBA level within the limits stated in the current NFPA 1901 standards.

The engine tunnel shall be no higher than 17.00" off the crew cab floor (no exception).

COMPLY_____ EXCEPTION_____

INTERIOR CREW CAB REAR WALL ADJUSTABLE SEATING (PATENT PENDING)

The interior rear wall of the crew cab shall have mounting holes every 3.00" to allow for adjustability of the forward facing crew cab seating along the rear wall. Seats shall be adjustable with use of simple hand tools allowing departments flexibility of their seating arrangement should their department needs change. (no exception)

COMPLY_____ EXCEPTION_____

CAB REAR WALL EXTERIOR COVERING

The exterior surface of the rear wall of the cab shall be overlaid with bright aluminum treadplate except for areas that are not typically visible when the cab is lowered.

COMPLY_____ EXCEPTION_____

CAB LIFT

A hydraulic cab lift system shall be provided consisting of an electric powered hydraulic pump, dual lift cylinders, and necessary hoses and valves.

Hydraulic pump shall have a manual override for backup in the event of electrical failure.

Lift controls shall be located on the right side pump panel or front area of the body in a convenient location.

The cab shall be capable of tilting 45 degrees to accommodate engine maintenance and removal.

The cab shall be locked down by a two (2)-point normally closed spring loaded hook type latch that fully engages after the cab has been lowered. The system shall be hydraulically actuated to release the normally closed locks when the cab lift control is in the raised position and cab lift system is under pressure. When the cab is completely lowered and system pressure has been relieved, the spring loaded latch mechanisms shall return to the normally closed and locked position.

For increased safety, a redundant mechanical stay arm shall be provided that must be manually put in place on the right side between the chassis and cab frame when the cab is in the raised position. This device shall be manually stowed to its original position before the cab can be lowered.

COMPLY_____ EXCEPTION_____

CAB LIFT TO PARKING BRAKE INTERLOCK

The cab lift system shall be interlocked to the parking brake. The cab tilt mechanism shall be active only when the parking brake is set and the ignition switch is in the on position. If the parking brake is released, the cab tilt mechanism shall be disabled.

COMPLY_____ EXCEPTION_____

GRILLE

A single piece polished stainless steel grille and framework shall be provided on the front center of the cab.

COMPLY_____ EXCEPTION_____

DOOR JAMB SCUFFPLATES

All cab door jambs shall be furnished with a polished stainless steel scuffplate, mounted on the striker side of the jamb.

TRIM BAND ON CAB FACE

A 10.00" band of 22 gauge patterned stainless steel trim shall be installed across the front of the cab, from door hinge to door hinge. The trim band shall be centered on the headlights and applied with two-sided tape. A .625" self-adhesive trim strip shall be applied around the perimeter of the trim band.

COMPLY_____ EXCEPTION_____

MOLDING (ON SIDES OF CAB)

Chrome molding shall be provided on both sides of cab.

COMPLY_____ EXCEPTION_____

MIRRORS

A Retrac Model 613423 dual vision, motorized, west coast style mirror, with chrome finish, shall be mounted on each side of the front cab door with spring loaded retractable arms. The flat glass and convex glass shall be heated and adjustable with remote control within reach of the driver.

COMPLY_____ EXCEPTION_____

DOORS

To enhance entry and egress to the cab, the forward cab doors shall be a minimum of 37.50" wide x 75.50" high. The crew cab doors shall be located on the sides of the cab and shall be constructed in the same manner as the forward cab doors. The crew cab door openings shall be a minimum of 34.30" wide x 85.50" high.

The forward cab and crew cab doors shall be constructed of extruded aluminum with a nominal material thickness of 0.093". The exterior door skins shall be constructed from 0.090" aluminum.

A customized, vertical, pull-down type door handle shall be provided on the exterior of each cab door. The exterior handle shall be designed specifically for the fire service to prevent accidental activation, and shall provide 4.00" wide x 2.00" deep hand clearance for ease of use with heavy gloved hands.

Each door shall also be provided with an interior flush, open style paddle handle that shall be readily operable from fore and aft positions, and be designed to prevent accidental activation. The interior handles shall provide 4.00" wide x 1.25" deep hand clearance for ease of use with heavy gloved hands.

The cab doors shall be provided with both interior (rotary knob) and exterior (keyed) locks exceeding FMVSS standards. The locks shall be capable of activating when the doors are open or closed. The doors shall remain locked if locks are activated when the doors are opened, then closed.

A full length, heavy duty, stainless steel, piano-type hinge with a 0.38" pin and 11 gauge leaf shall be provided on all cab doors. There shall be double automotive-type rubber seals around the perimeter of the door framing and door edges to ensure a weather-tight fit.

A chrome handrail shall be provided on the inside of each front cab door for ease of entry.

The cab steps at each cab door location shall be located inside the cab doors to protect the steps from weather elements.

COMPLY_____ EXCEPTION_____

DOOR PANELS

The inner cab door panels shall be constructed out of brushed stainless steel.

COMPLY_____ EXCEPTION_____

MANUAL CAB DOOR WINDOWS

All cab entry doors shall contain a conventional roll down window.

COMPLY_____ EXCEPTION_____

CAB STEPS

The forward cab and crew cab access steps shall be a full size two (2) step design to provide largest possible stepping surfaces for safe ingress and egress. The bottom steps shall be designed with a grip pattern punched into bright aluminum tread plate material to provide support, slip resistance, and drainage. The bottom steps shall be a bolt-in design to minimize repair costs should they need to be replaced. The forward cab steps shall be a minimum 25.00" wide, and the crew cab steps shall be 21.65" wide with a 10.00" minimum depth. The inside cab steps shall

not exceed 16.50" in height. A slip-resistant handrail shall be provided adjacent to each cab door opening to assist during cab ingress and egress.

The vertical surfaces of the step well shall be aluminum tread plate.

COMPLY_____ EXCEPTION_____

STEP LIGHTS

There shall be six (6) white LED step lights installed for cab and crew cab access steps.

Å One (1) light for the driver's access steps.

Å Two (2) lights for the driver's side crew cab access steps.

Å Two (2) lights for the passenger's side crew cab access steps.

Å One (1) light for the passenger's side access step.

In order to ensure exceptional illumination, each light shall provide a minimum of 25 foot-candles (fc) covering an entire 15" x 15" square placed ten (10) inches below the light and a minimum of 1.5 fc covering an entire 30" x 30" square at the same ten (10) inch distance below the light.

The lights shall be activated when the battery switch is on and the adjacent door is opened.

COMPLY_____ EXCEPTION_____

FENDER CROWNS

Stainless steel fender crowns shall be installed at the cab wheel openings.

COMPLY_____ EXCEPTION_____

CREW CAB WINDOWS

Two (2) fixed windows shall be provided on the sides of the cab, to the rear of the front cab doors. The windows shall be sized to enhance light penetration into the cab interior.

COMPLY_____ EXCEPTION_____

WINDOW TINT

Crew cab windows shall be tinted with 8 percent light transmission tint (shall block 92 percent of visible light). The following windows are included:

- Crew cab side windows

- Crew cab door, roll-up windows

- Top fixed window in crew cab doors

- Rear opera windows (If applicable)

- All windows in raised roof (If applicable)

COMPLY_____ EXCEPTION_____

WINDOW PROTECTOR BARS, CREW CAB DOORS

A knurled window protector bar shall be installed on each crew cab door, 2.00" above the bottom of the window opening. The bar shall extend from the front of the crew cab door to the rear of the crew cab door, mounted as close to the door frame as possible.

COMPLY_____ EXCEPTION_____

CAB INTERIOR

The cab interior shall be constructed of primarily metal (painted aluminum) to withstand the severe duty cycles of the fire service.

The officer side dash shall be a flat faced design to provide easy maintenance and shall be constructed out of painted aluminum.

The instrument cluster shall be surrounded with a high impact ABS plastic contoured to the same shape of the instrument cluster.

The engine tunnel shall be painted aluminum to match the cab interior.

Headliner shall be installed in both forward and rear cab sections. Material shall be installed on aluminum sheet and securely fastened to interior cab ceiling.

Forward portion of cab headliner shall permit easy access for service of electrical wiring or other maintenance needs.

All wiring shall be placed in metal raceways. Routing through holes in tubing shall not be accepted due to chaffing that installation shall cause.

State material and color of Headliner material:_____

_____

COMPLY_____ EXCEPTION_____

CAB INTERIOR UPHOLSTERY

The cab interior upholstery shall be gray.

COMPLY_____ EXCEPTION_____

INTERIOR PAINT (CAB)

The cab interior metal surfaces shall be painted gray, vinyl texture paint.

COMPLY_____ EXCEPTION_____

CAB FLOOR

The cab and crew cab floor areas shall be covered with an acoustical floor mat consisting of a black rubber facing and closed cell foam.

The top surface of the material will have a series of raised pyramid shapes evenly spaced, offering superior grip surfaces. Additionally, the material has a .25" thick closed cell foam (no water absorption) which offers a sound dampening material for reducing sound levels.

COMPLY_____ EXCEPTION_____

CAB DEFROSTER

To provide maximum defrost and heating performance, a 43,500 BTU/HR heater-defroster unit with 350 CFM of air flow shall be provided inside the cab. The defroster unit shall be strategically located under the center forward portion of the vacuum formed instrument panel. For easy access, a removable vacuum formed cover shall be installed over the defroster unit. The defroster shall include an integral aluminum frame air filter, high performance dual scroll blowers, and ducts designed to provide maximum defrosting capabilities for the one (1)-piece windshield. The defroster ventilation shall be built into the design of the cab dash instrument panel and shall be easily removable for maintenance. The defroster shall be capable of clearing

98 percent of the windshield and side glass when tested under conditions where the cab has been cold soaked at 0 degrees Fahrenheit for 10 hours, and a two (2) ounce per square inch layer of frost/ice has been able to build up on the exterior windshield. The defroster system shall meet or exceed SAE J382 minimum defrosting system performance requirements.

COMPLY_____ EXCEPTION_____

CAB/CREW CAB HEATER

Two (2) 44,180 BTU/HR auxiliary heaters with 276 CFM each unit of air flow shall be provided inside the crew cab, one (1) in each outboard rear-facing seat riser. The heaters shall include high performance dual scroll blowers, one (1) for each unit. Outlets for the heaters shall be located below each rear-facing seat riser and below the fronts of the driver and passenger seats, for efficient airflow. An extruded aluminum plenum shall be incorporated in the cab structure that shall transfer heat to the forward cab seating positions.

The heater-defroster and crew cab heaters shall be controlled by a single integral electronic control panel. The heater control panel shall allow the driver to control heat flow to the front and rear simultaneously. The control panel shall include variable adjustment for temperature and fan control, and be conveniently located on the dash in clear view of the driver. The control panel shall include highly visible, progressive LED indicators for both fan speed and temperature.

COMPLY_____ EXCEPTION_____

AIR CONDITIONING

A high performance, customized air conditioning system shall be furnished inside the cab and crew cab.

The air conditioning system shall be capable of cooling the average cab temperature from 100 degrees Fahrenheit to 75 degrees Fahrenheit within 30 minutes at 50 percent relative humidity. The cooling performance test shall be run only after the cab has been heat soaked at 100 degrees Fahrenheit for a minimum of 4 hours.

A radiator mounted condenser with a 59,644 BTU/HR output that meets and exceed the performance specification shall be installed. Mounting the condenser below the cab or body would reduce the performance of the system and shall not be acceptable.

One (1) evaporator unit shall be installed in the center roof with two (2) cores, one (1) for the cab and one (1) for the crew cab. The evaporator unit shall have an adequate BTU rating to meet the

performance specifications. Adjustable air outlets shall be strategically located on the evaporator cover per the following:

Å Four (4) shall be directed towards the driver's location

Å Four (4) shall be directed towards the officer's location

Å Seven (7) shall be directed towards the crew cab area

The air conditioner refrigerant shall be R-134A and shall be installed by a certified technician.

The air conditioner shall be controlled by a single electronic control panel. For ease of operation, the control panel shall include variable adjustment for temperature and fan control and be conveniently located on the dash in clear view of the driver.

COMPLY_____ EXCEPTION_____

INTERIOR CAB INSULATION

The cab and crew cab walls shall be insulated with 1.50" insulation and the ceiling shall have 1.00" insulation to reduce heat transfer into the cab.

The insulation shall be covered with a vinyl liner or a metal panel painted to match the interior.

COMPLY_____ EXCEPTION_____

SUNVISORS

Two (2) smoked LexanÊ sunvisors shall be provided above the windshield with one (1) mounted on each side of the cab.

COMPLY_____ EXCEPTION_____

GRAB HANDLE

A black rubber covered grab handle shall be mounted on the door post of the driver and officer's side cab door to assist in entering the cab. The grab handle shall be securely mounted to the post area between the door and windshield.

A long rubber grab handle shall be mounted on the dash board in front of the officer.

COMPLY_____ EXCEPTION_____

ENGINE COMPARTMENT LIGHT

An engine compartment light shall be installed under the engine hood, of which the switch is an integral part. Light shall have a .125" diameter weep hole in its lens to prevent moisture retention.

COMPLY_____ EXCEPTION_____

ACCESS TO ENGINE DIPSTICKS

For access to the engine oil and transmission fluid dipsticks, there shall be a door on the engine tunnel, inside the crew cab. The door shall be on the rear wall of the engine tunnel, on the vertical surface.

The engine oil dipstick shall allow for checking only. The transmission dipstick shall allow for both checking and filling. An additional tube shall be provided for filling the engine oil.

The door shall have a rubber seal for thermal and acoustic insulation. One (1) flush latch shall be provided on the access door.

COMPLY_____ EXCEPTION_____

ENGINE HOOD COVER

The exterior surface of the engine hood shall have a Turnout Tuff material cover. The sides of the engine tunnel shall also be covered. A flap shall be provided over the hinged access door leading to the fluid level dipsticks. The flap shall be secured with Velcro.

COMPLY_____ EXCEPTION_____

SEATING CAPACITY

The seating capacity in the cab shall be five (5).

COMPLY_____ EXCEPTION_____

DRIVER SEAT

A Seats Inc. #911 scissor-action air-ride, mid-height with headrest style seat shall be provided in the cab for the driver.

COMPLY_____ EXCEPTION_____

OFFICER SEAT

A Seats Incorporated 911 SCBA seat with high-back shall be provided in the cab for the officer. The SCBA cavity shall be adjustable front to rear in 0.50" increments to accommodate different size SCBA bottles. For increased convenience, the seat shall be provided with 6.00" double locking fore/aft slide adjustment.

Moving the SCBA cavity shall be accomplished by unbolting, relocating and rebolting in the desired location.

COMPLY_____ EXCEPTION_____

RADIO COMPARTMENT

A radio compartment shall be provided under the officer's seat.

The inside compartment dimensions shall be 15.00" deep x 16.00" across x 5.75" high, with the back of the compartment angled up to match the cab structure.

A drop-down door with a chrome plated lift and turn latch shall be provided for access.

The compartment shall be constructed of smooth aluminum and painted to match the cab interior.

COMPLY_____ EXCEPTION_____

REAR FACING DRIVER SIDE EMS COMPARTMENT

A rear facing EMS compartment shall be provided in the crew cab at the driver side outboard position.

The compartment shall be 24.50" wide x 44.00" high x 26.75" deep with one (1) Robinson roll up door, non-locking with anodized finish. The clear door opening of the compartment shall be 15.00" wide x 33.75" high.

The compartment shall be constructed of smooth aluminum and painted to match the cab interior.

COMPLY_____ EXCEPTION_____

COMPARTMENT LIGHT

There shall be two (2) white Amdor LED strip lights installed, one (1) each side of the compartment opening. The lights shall be controlled by an automatic door switch.

REAR FACING PASSENGER SIDE OUTBOARD SEAT

One (1) rear facing, Seats Incorporated 911 SCBA seat shall be provided in the passenger side outboard position in crew cab. The SCBA cavity shall be adjustable front to rear in .50" increments to accommodate different size SCBA bottles.

Moving the SCBA cavity shall be accomplished by unbolting, relocating and rebolting in the desired location.

COMPLY_____ EXCEPTION_____

FORWARD FACING CENTER SEATS

There shall be two (2) forward facing, Seats Incorporated 911 SCBA seats provided at the center position in the crew cab. The SCBA cavity shall be adjustable front to rear in .50" increments to accommodate different size SCBA bottles.

Moving the SCBA cavity shall be accomplished by unbolting, relocating and rebolting in the desired location.

COMPLY_____ EXCEPTION_____

SHELVING

There shall be one (1) shelf provided in the EMS compartment. Each shelf shall be constructed of .090" aluminum with a 1.25" up-turned lip. Shelving shall be infinitely adjustable by means of a threaded tightener sliding in a track.

The location shall be rear facing EMS compartment.

COMPLY_____ EXCEPTION_____

SEAT UPHOLSTERY

All seat upholstery shall be black. State material of Seat Upholstery:_____

_____

COMPLY_____ EXCEPTION_____

AIR BOTTLE HOLDERS

All SCBA type seats in the cab shall have a "Hands-Free" auto clamp style bracket in its backrest. For efficiency and convenience, the bracket shall include an automatic spring clamp that allows the occupant to store the SCBA bottle by simply pushing it into the seat back. For protection of all occupants in the cab, in the event of an accident, the inertial components within the clamp shall constrain the SCBA bottle in the seat and shall exceed the NFPA standard of 9G. Bracket designs with manual restraints (belts, straps, buckles) that could be inadvertently left unlocked and allow the SCBA to move freely within the cab during an accident, shall not be acceptable.

There shall be a quantity of four (4) SCBA brackets.

COMPLY_____ EXCEPTION_____

SEAT BELTS

All seating positions shall be furnished with three (3)-point shoulder type red seat belt. The seat belt shall be furnished with automatic retractors. Extension shall be provided with the seat belt so the male end can be easily grasped and the female end easily located while sitting in a normal position.

The belts shall also include the Ready Reach D-loop assembly to the shoulder belt system. The Ready Reach feature adds an extender arm to the D-loop location placing the D-loop in a closer, easier to reach location.

To ensure safe operation, the seat shall be equipped with seat belt sensors in the seat cushion and belt receptacle that shall activate an alarm indicating a seat is occupied but not buckled.

COMPLY_____ EXCEPTION_____

SEAT BELT MONITORING SYSTEM

A seat belt monitoring system (SBMS) shall be provided. The SBMS shall be capable of monitoring up to ten (10) seat positions indicating the status of each seat position with a green or red LED indicator as follows:

Å Seat Occupied & Buckled = Green

Å Seat Occupied & Unbuckled = Red

Å No Occupant & Buckled = Red

Å No Occupant & Unbuckled = Not Illuminated

COMPLY_____ EXCEPTION_____

AUDIBLE ALARM

The Seat Belt Monitoring System shall include an audible alarm that shall be activated when a red illumination condition exists and the parking brake is released, or a red illumination condition exists and the transmission is not in park.

COMPLY_____ EXCEPTION_____

HELMET HOLDER

There shall be five (5) Zico UHH-1 helmet holder bracket(s) provided in the cab. The brackets shall provide quick access and secure storage of the helmet(s). The bracket location(s) shall be determined at time of final inspection.

COMPLY_____ EXCEPTION_____

CAB DOME LIGHTS

There shall be four (4) P1006, dual LED dome lights with grey bezels provided. Two (2) lights shall be mounted above the inside shoulder of the driver and officer and two (2) lights shall be installed and located, one (1) on each side of the crew cab.

The color of the LED's shall be red and white.

The white LED's shall be controlled by the door switches and the lens switch.

The color LED's shall be controlled by the lens switch.

In order to ensure exceptional illumination, each white LED dome light shall provide a minimum of 10.1 foot-candles (fc) covering an entire 20.00" x 20.00" square seating position when mounted 40.00" above the seat.

COMPLY_____ EXCEPTION_____

MAP LIGHT

There shall be one (1) Federal Littlite® LED map light(s) provided in the cab and located on the officer's side of the truck. Each map light shall have a on/off switch with a 18.00" long flexible neck that exits the top of the chassis mount. The map light(s) wiring shall exit from the bottom of the chassis mount.

Each light shall be provided with red and white LEDs.

The light switch(es) shall be connected directly to the battery switched power.

PORTABLE HAND LIGHTS, PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2009 edition, section 5.8.3 requires two portable hand lights mounted in brackets fastened to the apparatus.

The hand lights are not on the apparatus as manufactured. The fire department shall provide and mount these hand lights.

COMPLY_____ EXCEPTION_____

HAND HELD SPOTLIGHT

There shall be one (1) spotlight provided, Model Collins CL-12, with a 9 foot coil cord and momentary switch. The housing shall be made from aircraft aluminum that is black powder coated. Location of the one (1) spotlight shall be To be Determined.

COMPLY_____ EXCEPTION_____

SPARE CIRCUIT

There will be two (2) pair of wires, including a positive and a negative, installed in the cab of the apparatus.

The above wires will have the following features:

- The positive wire will be connected directly to the battery power.
- The negative wire will be connected to ground.
- Wires will be protected to 10 amps at 12 volts DC.
- Power and ground will terminate to be determined at Pre Construction.
- Termination will be with 15 amp, power point plug with rubber cover.

Wires will be sized to 125% of the protection.

Exact location to be determined at Pre-Construction Conference.

COMPLY_____ EXCEPTION_____

CAB INSTRUMENTATION

The cab instrument panel shall be a molded ABS panel and include gauges, telltale indicator lamps, control switches, alarms and a diagnostic panel. The function of the instrument panel controls and switches shall be identified by a label adjacent to each item. Actuation of the headlight switch shall illuminate the labels in low light conditions. Telltale indicator lamps shall not be illuminated unless necessary. The cab instruments and controls shall be conveniently located within the forward cab section, forward of the driver. The gauge assembly and switch panels are designed to be removable for ease of service and low cost of ownership.

COMPLY_____ EXCEPTION_____

GAUGES

The gauge panel shall include the following ten (10) black faced gauges with black bezels to monitor vehicle performance:

Å Voltmeter gauge (volts):

- Low volts (11.8 VDC)
  - Amber telltale light on indicator light display with steady tone alarm
- High volts (15.5 VDC)
  - Amber telltale light on indicator light display with steady tone alarm

- Engine Tachometer (RPM)
- Speedometer MPH (Major Scale), KM/H (Minor Scale)
- Fuel level gauge (Empty - Full in fractions):
  - Low fuel (1/8 full)
    - Amber indicator light in gauge dial with steady tone alarm
- Engine Oil pressure Gauge (PSI):
  - Low oil pressure to activate engine warning lights and alarms
    - Red indicator light in gauge dial with steady tone alarm
- Front Air Pressure Gauges (PSI):
  - Low air pressure to activate warning lights and alarm
    - Red indicator light in gauge dial with steady tone alarm
- Rear Air Pressure Gauges (PSI):
  - Low air pressure to activate warning lights and alarm
    - Red indicator light in gauge dial with steady tone alarm
- Transmission Oil Temperature Gauge (Fahrenheit):
  - High transmission oil temperature activates warning lights and alarm
    - Amber indicator light in gauge dial with steady tone alarm
- Engine Coolant Temperature Gauge (Fahrenheit):
  - High engine temperature activates an engine warning light and alarms
    - Red indicator light in gauge dial with steady tone alarm
- Diesel Exhaust Fluid Level Gauge (Empty - Full in fractions):
  - Low fluid (1/8 full)

To promote safety, the following telltale indicator lamps shall be located on the instrument panel in clear view of the driver. The indicator lamps shall be "dead-front" design that is only visible when active. The colored indicator lights shall have descriptive text or symbols.

The following amber telltale lamps shall be present:

- Low coolant
- Trac cntl (traction control) (where applicable)

Å Check engine

Å Check trans (check transmission)

Å Air rest (air restriction)

Å DPF (engine diesel particulate filter regeneration)

Å HET (engine high exhaust temperature) (where applicable)

Å ABS (antilock brake system)

Å MIL (engine emissions system malfunction indicator lamp) (where applicable)

Å Regen inhibit (engine emissions regeneration inhibit) (where applicable)

Å Side roll fault (where applicable)

Å Front air bag fault (where applicable)

Å Aux brake overheat (auxiliary brake overheat) (where applicable)

Å The following red telltale lamps shall be present:

Å Parking brake

Å Stop engine

Å The following green telltale lamps shall be present:

Å Left turn

Å Right turn

Å Battery on

Å Ignition

Å Aux brake (auxiliary brake engaged) (where applicable)

Å The following blue telltale lamps shall be present:

Å High beam

COMPLY_____ EXCEPTION_____

ALARMS

Audible steady tone warning alarm: A steady audible tone alarm shall be provided whenever a warning condition is active.

COMPLY_____ EXCEPTION_____

INDICATOR LAMP AND ALARM PROVE-OUT

A system shall be provided which automatically tests telltale indicator lights and alarms located on the cab instrument panel. Telltale indicators and alarms shall perform prove-out for 3 to 5 seconds when the ignition switch is moved to the on position with the battery switch on.

COMPLY_____ EXCEPTION_____

CONTROL SWITCHES

For ease of use, the following controls shall be provided immediately adjacent to the cab instrument panel within easy reach of the driver. All switches shall have backlit labels for low light applications.

Headlight/Parking light switch: A three (3)-position maintained rocker switch shall be provided. The first switch position shall deactivate all parking and headlights. The second switch position shall activate the parking lights. The third switch shall activate the headlights.

Panel back lighting intensity control switch: A three (3)-position momentary rocker switch shall be provided. Pressing the top half of the switch, "Panel Up" increases the panel back lighting intensity and pressing the bottom half of the switch, "Panel Down" decreases the panel back lighting intensity. Pressing the half or bottom half of the switch several times shall allow back lighting intensity to be gradually varied from minimum to maximum intensity level for ease of use.

Ignition switch: A three (3)-position maintained/momentary rocker switch shall be provided. The first switch position shall turn off and deactivate vehicle ignition. The second switch position shall activate vehicle ignition and shall perform prove-out on the telltale indicators and alarms for 3 to 5 seconds after the switch is turned on. A green indicator lamp is activated with vehicle ignition. The third momentary position shall temporarily silence all active cab alarms. An alarm "chirp" may continue as long as alarm condition exists. Switching ignition to off position shall terminate the alarm silence feature and reset function of cab alarm system.

Engine start switch: A two (2)-position momentary rocker switch shall be provided. The first switch position is the default switch position. The second switch position shall activate the

vehicle's engine. The switch actuator is designed to prevent accidental activation. Both the Ignition switch and Engine start switch must be located to the left of the steering wheel.

Hazard switch shall be provided on the instrument panel or on the steering column.

Heater and defroster controls.

Turn signal arm: A self-canceling turn signal with high beam headlight controls.

Windshield wiper control shall have high, low, and intermittent modes.

Parking brake control: An air actuated push/pull park brake control.

Chassis horn control: Activation of the chassis horn control shall be provided through the center of the steering wheel.

High idle engagement switch: A maintained rocker switch with integral indicator lamp shall be provided. The switch shall activate and deactivate the high idle function. The "OK to Engage High Idle" indicator lamp must be active for the high idle function to engage. A green indicator lamp integral to the high idle engagement switch shall indicate when the high idle function is engaged.

"OK to Engage High Idle" indicator lamp: A green indicator light shall be provided next to the high idle activation switch to indicate that the interlocks have been met to allow high idle engagement.

Emergency switching shall be controlled by multiple individual warning light switches for various groups or areas of emergency warning lights. An Emergency Master switch provided on the instrument panel that enables or disables all individual warning light switches is included..

An additional "Emergency Master" button shall be provided on the lower left hand corner of the gauge panel to allow convenient control of the "Emergency Master" system from inside the driver's door when standing on the ground.

COMPLY_____ EXCEPTION_____

CUSTOM SWITCH PANELS

The design of cab instrumentation shall allow for emergency lighting and other switches to be placed within easy reach of the operator thus improving safety. There shall be positions for up to four (4) switch panels in the lower instrument console and up to six (6) switch panels in the overhead visor console. All switches have backlit labels for low light conditions.

COMPLY_____ EXCEPTION_____

DIAGNOSTIC PANEL

A diagnostic panel shall be provided and accessible while standing on the ground. The panel shall be located inside the driver's side door left of the steering column. The diagnostic panel shall allow diagnostic tools such as computers to connect to various vehicle systems for improved troubleshooting providing a lower cost of ownership. Diagnostic switches shall allow engine and ABS systems to provide blink codes should a problem exist.

The diagnostic panel shall include the following:

Å ENGINE/TRANSMISSION/ABS J1939 Diagnostic Port

Å ABS Diagnostic Switch and Indicator - The switch and amber indicator shall allow access to diagnostic mode and display of standard ABS system fault blink codes that may be generated by the ABS system

Å ENG DIAG (Engine Diagnostic Indicator) - A red indicator shall be provided that shall illuminate in a "STOP ENGINE" condition. (A switch with shall allow access to diagnostic mode and display of standard engine diagnostic blink codes.) (where applicable)

Å DPF REGEN (Diesel Particulate Filter Regeneration Switch) (where applicable) shall be provided to request regeneration of the engine emission system. An amber indicator shall be provided on top of the switch that shall illuminate in a "CHECK ENGINE" condition

Å REGEN INHIBIT (Diesel Particulate Filter Regeneration Inhibit Switch) (where applicable) shall be provided that shall request that regeneration be temporarily prevented. A green indicator shall be provided on top of the Regen Inhibit switch that shall illuminate when the Regen Inhibit feature is active. Regen Inhibit shall be disabled upon cycling of the ignition switch to the off state.

COMPLY_____ EXCEPTION_____

AIR RESTRICTION INDICATOR

A high air restriction warning indicator light (electronic) shall be provided.

COMPLY_____ EXCEPTION_____

"DO NOT MOVE APPARATUS" INDICATOR

A flashing red indicator light, located in the driving compartment, shall be illuminated automatically per the current NFPA requirements. The light shall be labeled "Do Not Move Apparatus If Light Is On."

The same circuit that activates the Do Not Move Apparatus indicator shall activate a pulsing alarm when the parking brake is released.

COMPLY_____ EXCEPTION_____

WIPER CONTROL

Wiper control shall consist of a two (2)-speed windshield wiper control with intermittent feature and windshield washer controls.

COMPLY_____ EXCEPTION_____

VEHICLE DATA RECORDER

A vehicle data recorder (VDR) shall be provided. The VDR shall be capable of reading and storing vehicle information.

The information stored on the VDR can be downloaded through a USB port mounted in a convenient location determined by cab model. A CD provided with the apparatus shall include the programming to download the information from the VDR. A USB cable can be used to connect the VDR to a laptop to retrieve required information.

The vehicle data recorder shall be capable of recording the following data via hardwired and/or CAN inputs:

- Vehicle Speed - MPH
- Acceleration - MPH/sec
- Deceleration - MPH/sec
- Engine Speed - RPM
- Engine Throttle Position - % of Full Throttle
- ABS Event - On/Off
- Seat Occupied Status - Yes/No by Position (7-12 Seating Capacity)
- Seat Belt Buckled Status - Yes/No by Position (7-12 Seating Capacity)
- Master Optical Warning Device Switch - On/Off
- Time - 24 Hour Time

Å Date - Year/Month/Day

COMPLY_____ EXCEPTION_____

ELECTRICAL POWER CONTROL SYSTEM

A compartment shall be provided in or under the cab to house the vehicle's electrical power and signal circuit protection and control components. The power and signal protection and control compartment shall contain circuit protection devices and power control devices. Power and signal protection and control components shall be protected against corrosion, excessive heat, excessive vibration, physical damage and water spray.

Serviceable components shall be readily accessible.

Circuit protection devices, which conform to SAE standard, shall be utilized to protect each circuit. All circuit protection devices shall be sized to prevent wire and component damage when subjected to extreme current overload. General protection circuit breakers shall be Type-I automatic reset (continuously resetting) and conform to SAE J553 or J258. When required, automotive type fuses conforming to SAE J554, J1284, J1888 or J2077 shall be utilized to protect electronic equipment.

Power control relays and solenoids shall have a direct current (dc) rating of 125 percent of the maximum current for which the circuit is protected.

Visual status indicators shall be supplied to identify control safety interlocks and vehicle status. In addition to visual status indicators, audible alarms designed to provide early warning of problems before they become critical shall be used.

COMPLY_____ EXCEPTION_____

VOLTAGE MONITOR SYSTEM

A voltage monitor system shall be provided to indicate the status of each battery system connected to the vehicle's electrical load. The monitor system shall provide visual and audio warning when the system voltage is above or below optimum levels.

COMPLY_____ EXCEPTION_____

POWER AND GROUND STUDS

Spare circuits shall be provided in the primary distribution center for two-way radio equipment.

The spare circuits shall consist of the following:

Å One (1) 12-volt DC, 30 amp battery direct spare

Å One (1) 12-volt DC ground and un-fused switched battery stud located in or adjacent to the power distribution center.

COMPLY_____ EXCEPTION_____

EMI/RFI PROTECTION

The electrical system proposed shall include means to control undesired electromagnetic and radio frequency emissions. State of the art electrical system design and components shall be used to ensure radiated and conducted EMI (electromagnetic interference) and RFI (radio frequency interference) emissions are suppressed at their source.

The apparatus proposed shall have the ability to operate in the electromagnetic environment typically found in fire ground operations. The contractor shall be able to demonstrate the EMI and RFI testing has been done on similar apparatus and certifies that the vehicle proposed meets SAE J551 requirements.

EMI/RFI susceptibility shall be controlled by applying immune circuit designs, shielding, twisted pair wiring and filtering. The electrical system shall be designed for full compatibility with low level control signals and high powered two-way radio communication systems. Harness and cable routing shall be given careful attention to minimize the potential for conducting and radiated EMI-RFI susceptibility.

COMPLY_____ EXCEPTION_____

ELECTRICAL

All 12-volt electrical equipment installed by the apparatus manufacturer shall conform to modern automotive practices. All wiring shall be high temperature crosslink type. Wiring shall be run, in loom or conduit, where exposed and have grommets where wire passes through sheet metal. Automatic reset circuit breakers shall be provided which conform to SAE Standards. Wiring shall be color, function and number coded. Function and number codes shall be continuously imprinted on all wiring harness conductors at 2.00" intervals. Exterior exposed wire connectors shall be positive locking, and environmentally sealed to withstand elements such as temperature extremes, moisture and automotive fluids.
Electrical wiring and equipment shall be installed utilizing the following guidelines:

1. All holes made in the roof shall be caulked with silicon, rope caulk is not acceptable. Large fender washers, liberally caulked, shall be used when fastening equipment to the underside of the cab roof.

2. Any electrical component that is installed in an exposed area shall be mounted in a manner that shall not allow moisture to accumulate in it. Exposed area shall be defined as any location outside of the cab or body.

3. Electrical components designed to be removed for maintenance shall not be fastened with nuts and bolts. Metal screws shall be used in mounting these devices. Also a coil of wire shall be provided behind the appliance to allow them to be pulled away from mounting area for inspection and service work.

4. Corrosion preventative compound shall be applied to all terminal plugs located outside of the cab or body. All non-waterproof connections shall require this compound in the plug to prevent corrosion and for easy separation (of the plug).

5. All lights that have their sockets in a weather exposed area shall have corrosion preventative compound added to the socket terminal area.

6. All electrical terminals in exposed areas shall have silicon (1890) applied completely over the metal portion of the terminal.

All lights and reflectors, required to comply with Federal Motor Vehicle Safety Standard #108, shall be furnished. Rear identification lights shall be recessed mounted for protection. Lights and wiring mounted in the rear bulkheads shall be protected from damage by installing a false bulkhead inside the rear compartments.

An operational test shall be conducted to ensure that any equipment that is permanently attached to the electrical system is properly connected and in working order.

The results of the tests shall be recorded and provided to the purchaser at time of delivery.

COMPLY_____ EXCEPTION_____

BATTERY SYSTEM

There shall be four (4) 12 volt Exide, Model 31S950X3W, batteries that include the following features shall be provided:

Å 950 CCA, cold cranking amps

Å 190 amp reserve capacity

Å High cycle

- Group 31
- Rating of 3800 CCA at 0 degrees Fahrenheit
- 760 minutes of reserve capacity
- Threaded stainless steel studs

Each battery case shall be a black polypropylene material with a vertically ribbed container for increased vibration resistance. The cover shall be manifold vented with a central venting location to allow a 45 degree tilt capacity.

The inside of each battery shall consist of a "maintenance free" grid construction with poly wrapped separators and a flooded epoxy bottom anchoring for maximum vibration resistance.

COMPLY_____ EXCEPTION_____

BATTERY SYSTEM

A single starting system shall be provided.
An ignition switch and starter button shall be located on the instrument panel.

COMPLY_____ EXCEPTION_____

MASTER BATTERY SWITCH

A master battery switch, to activate the battery system, shall be provided inside the cab within easy reach of the driver.

An indicator light shall be provided on the instrument panel to notify the driver of the status of the battery system.

Both the Ignition switch and Engine start switch must be located to the left of the steering wheel.

COMPLY_____ EXCEPTION_____

BATTERY COMPARTMENTS

Batteries shall be placed on non-corrosive mats and be stored in well ventilated compartments located under the cab.

Heavy-duty battery cables shall be used to provide maximum power to the electrical system. Cables shall be color coded.

Battery terminal connections shall be coated with anti-corrosion compound. Battery solenoid terminal connections shall be encapsulated with semi-permanent rubberized compound.

COMPLY_____ EXCEPTION_____

JUMPER STUDS

One (1) set of battery jumper studs with plastic color-coded covers shall be included on the battery compartments.

COMPLY_____ EXCEPTION_____

BATTERY CHARGER/ AIR COMPRESSOR

A Kussmaul Pump Plus 1200, Model # 52-21-1100 single output battery charger/air compressor system shall be provided. A display bar graph indicating the state of charge shall be included.

The automatic charger shall maintain one (1) set of batteries with a maximum output current of 40 amps.

The 12-volt air compressor shall be installed to maintain the air system pressure when the vehicle is not in use.

The battery charger shall be wired directly to the AC shoreline inlet.

Battery charger/compressor shall be located in the front left body compartment.

The battery charger indicator shall be located on the driver's seat riser.

COMPLY_____ EXCEPTION_____

SHORELINE INLETS

There shall be one (1) shoreline receptacle provided to operate the dedicated 120 volt circuits on the truck without the use of a generator.

The shoreline receptacle(s) shall be provided with a NEMA 5-20, 120 volt, 20 amp, straight blade Kussmaul Super auto eject plug with a red weatherproof cover. The cover is spring loaded to close, preventing water from entering when the shoreline is not connected.

The unit is completely sealed to prevent road dirt contamination.

A solenoid wired to the vehicle's starter is energized when the engine is started. This instantaneously drives the plug from the receptacle.

An internal switch arrangement shall be provided to disconnect the load prior to ejection to eliminate arcing of the connector contacts.

The shoreline shall be connected to to Kussmaul Battery Charger and 110v outlet in Driver's side rear facing EMS compartment.

A mating connector body shall be supplied with the loose equipment.

The shoreline receptacle shall be located on the driver side of cab, above wheel.

COMPLY_____ EXCEPTION_____

BATTERY TRAYS

Plastic battery trays with drain tubes shall be provided, for the batteries to sit in. The drain tubes shall extend below the chassis frame rails.

COMPLY_____ EXCEPTION_____

ALTERNATOR

A Leece-Neville, model 4962PA, alternator shall be provided. It shall have a rated output current of 320 amps, as measured by SAE method J56. The alternator shall feature an integral, self diagnostic regulator and rectifier. The alternator shall be connected to the power and ground distribution system with heavy-duty cables sized to carry the full rated alternator output.

COMPLY_____ EXCEPTION_____

ELECTRONIC LOAD MANAGEMENT

An electronic load management (ELM) system that monitors the vehicles 12-volt electrical system and automatically reduces the electrical load in the event of a low voltage condition and by doing so, ensures the integrity of the electrical system.

The ELM shall monitor the vehicle's voltage while at the scene (parking brake applied). It shall sequentially shut down individual electrical loads when the system voltage drops below a preset value. Two (2) separate electrical loads shall be controlled by the load manager. The ELM shall sequentially re-energize electrical loads as the system voltage recovers.

COMPLY_____ EXCEPTION_____

HEADLIGHTS

There shall be four (4) rectangular halogen lights mounted in the front quad style, chrome housing on each side of the cab grille:

Å The outside light on each side shall contain a halogen low and high beam module.

Å The inside light on each side shall contain a halogen high beam module only.

COMPLY_____ EXCEPTION_____

DIRECTIONAL LIGHTS

There shall be two (2) Whelen, Model 60A00TAR, amber LED populated arrow directional lights provided on the front of the cab, above the headlights. Each light shall be housed in the same chrome common bezel as the front warning light.

COMPLY_____ EXCEPTION_____

CAB CLEARANCE/MARKER/ID LIGHTS

There shall be five (5) amber LED lights provided to indicate the presence and overall width of the vehicle in the following locations:

Å Three (3) amber LED identification lights shall be installed in the center of the cab above the windshield.

Å Two (2) amber LED clearance lights shall be installed, one (1) on each outboard side of the cab above the windshield.

COMPLY_____ EXCEPTION_____

FRONT CAB SIDE CLEARANCE/MARKER LIGHTS

There shall be two (2) Weldon, Model 9186-8580-29, amber LED lights installed front of the cab door, one (1) on each side of the cab.

The lights shall activate as clearance/marker lights with the headlight switch and directional lights with the corresponding directional circuit.

COMPLY_____ EXCEPTION_____

REAR ID/MARKER DOT LIGHTING

There shall be one (1) Truck-Lite, Model 15050R, three (3) LED light kit used as identification lights located at the rear of the apparatus per the following:

Å As close as practical to the vertical centerline.

Å Centers spaced not less than 6.00" or more than 12.00" apart.

Å Red in color.

Å All at the same height.

There shall be two (2) LED lights installed at the rear of the apparatus used as clearance lights located at the rear of the apparatus per the following:

Å To indicate the overall width of the vehicle.

Å One (1) each side of the vertical centerline.

Å As near the top as practical.

Å Red in color.

Å To be visible from the rear.

There shall be two (2) LED lights installed on the side of the apparatus as close to the rear as practical per the following:

Å To indicate the overall length of the vehicle.

Å One (1) each side of the vertical centerline.

Å As near the top as practical.

Å Red in color.

Å To be visible from the side.

Per FMVSS 108 and CMVSS 108 requirements.

COMPLY_____ EXCEPTION_____

FRONT DIRECTIONAL

Front turn signals to be Whelen, populated sequencing LED arrow shape 600 series amber lamps housed in chrome bezels. The turn signals shall be housed in the same common bezel as the front warning light and be located above the headlights.

In addition to the front facing directional, a Weldon, Model: 9186-8580-29, LED marker/turn indicator shall be provided on each side of the cab.

COMPLY_____ EXCEPTION_____

REAR FMVSS LIGHTING

There shall be the following stop/tail and directional lighting provided at the rear of the truck:

Å Two (2) Whelen, Model 60BTT*, red LED stop/tail lights with color lenses.

Å Two (2) Whelen, Model 60A00TAR, amber LED directional lights.

These lights shall be installed in a polished combination housing.

Four (4) red reflectors shall be provided.

Two (2) Whelen, Model: 60C00VCR, LED backup lights shall be provided.

COMPLY_____ EXCEPTION_____

LICENSE PLATE BRACKET

There shall be one (1) Weldon, Model 0J10-0393-00, license plate bracket located below the tailboard on a removable bolt-on bracket located on the Driver's side.

A Weldon, Model 9186-23882-30, incandescent step light shall illuminate the license plate.

COMPLY_____ EXCEPTION_____

LIGHTING BEZEL

Two (2) Whelen, model CAST4V, four (4) light aluminum housings shall be provided for mounting four (4) Whelen 600 lights.

COMPLY_____ EXCEPTION_____

BACK-UP ALARM

A PRECO, Model 1040, solid-state electronic audible back-up alarm that actuates when the truck is shifted into reverse shall be provided. The device shall sound at 60 pulses per minute and automatically adjust its volume to maintain a minimum ten (10) dBA above surrounding environmental noise levels.

COMPLY_____ EXCEPTION_____

INTERMEDIATE LIGHT

There shall be one (1) pair, of Truck-Lite, Model 60115Y, amber, LED, turn signal, marker lights furnished, one (1) each side, horizontally in the rear fender panel.

A stainless steel trim shall be included with this installation.

COMPLY_____ EXCEPTION_____

CAB PERIMETER SCENE LIGHTS

There shall be four (4) Amdor LumaBar H2O, Model AY-9500-020, 20.00" white LED strip lights provided, one (1) for each cab door.

These lights shall be activated automatically when the battery switch is on and the exit doors are opened or by the same means as the body perimeter scene lights.

COMPLY_____ EXCEPTION_____

PERIMETER SCENE LIGHTS, BODY

There shall be a total of four (4) Amdor Luma Bar, H2O Model AY-9500-020 20" LED weatherproof strip lights with brackets provided on the apparatus. The lights shall be mounted in

the following locations: two (2) lights shall be provided under the rear step area, and one (1) light shall be provided each side under the pump panel running boards.

The lights shall be activated by parking brake.

These lights shall meet NFPA requirements for perimeter scene lights.

COMPLY_____ EXCEPTION_____

STEP LIGHTS

Four (4) white LED step lights shall be provided. One (1) step light shall be provided on each side, on the front compartment face and two (2) step lights at the rear to illuminate the tailboard.

In order to ensure exceptional illumination, each light shall provide a minimum of 25 foot-candles (fc) covering an entire 15" x 15" square placed ten (10) inches below the light and a minimum of 1.5 fc covering an entire 30" x 30" square at the same ten (10) inch distance below the light.

These step lights shall be actuated with the pump panel light switch.

All other steps on the apparatus shall be illuminated per the current edition of NFPA 1901.

COMPLY_____ EXCEPTION_____

12 VOLT LIGHTING

There shall be two (2) Whelen Model PCP2P, 12 volt DC LED combination spot/floodlight(s) installed on the apparatus.

The painted parts of this light assembly to be white.

The lights shall be installed on extendable poles One (1) each side mounted over the pump panel.

The light(s) to be installed on through mount pull up pole(s).

The length of the outside pole to be 20.00".

The inside pole length to be 57.00" long or as long as practical to fit in the location selected.

The light pole(s) to be installed without handle holder(s).

The lights shall be controlled by the following:

Å A switch at the driver's side switch panel.

Å A switch at the passenger's side switch panel.

Å A switch at the pump operator's panel.

These light(s) may be load managed when the parking brake is applied.

COMPLY_____ EXCEPTION_____

12 VOLT LIGHTING

There shall be one (1) Whelen Pioneer PCP2, 12 volt LED combination spotlight and floodlight(s) provided on the front visor, centered.

The light(s) shall flash in a warning mode when the emergency master switch is activated, the parking brake is released and with separate switches powered from emergency master power, one (1) included on the driver side switch panel & one (1) included on the offer side switch panel.

The lights shall be in a steady burning scene light mode with the following:

A switch at the driver's side switch panel

A switch at the passenger's side switch panel

The scene light mode shall be the priority control.

These light(s) may be load managed when the parking brake is set.

COMPLY_____ EXCEPTION_____

DECK LIGHTS

One (1) PFBP12C LED floodlight and one (1) PSBP12C LED spotlight with swivel mount shall be provided at the rear of the hose bed, one (1) each side.

COMPLY_____ EXCEPTION_____

WATER TANK

Booster tank shall have a capacity of 750 gallons and be constructed of polypropylene plastic by United Plastic Fabricating, Incorporated.

The tank shall be stepped in design to allow for a low hosebed.

Tank joints and seams shall be nitrogen welded inside and out.

Tank shall be baffled in accordance with NFPA Bulletin 1901 requirements.

Baffles shall have vent openings at both the top and bottom to permit movement of air and water between compartments.

Longitudinal partitions shall be constructed of .38" polypropylene plastic and shall extend from the bottom of the tank through the top cover to allow for positive welding.

Transverse partitions shall extend from 4.00" off the bottom of the tank to the underside of the top cover.

All partitions shall interlock and shall be welded to the tank bottom and sides.

Tank top shall be constructed of .50" polypropylene. It shall be recessed .38" and shall be welded to the tank sides and the longitudinal partitions.

Tank top shall be sufficiently supported to keep it rigid during fast filling conditions.

Construction shall include 2.00" polypropylene dowels spaced no more than 30.00" apart and welded to the transverse partitions. Two (2) of the dowels shall be drilled and tapped (.50" diameter, 13.00" deep) to accommodate lifting eyes.

A sump that is 8.00" long x 8.00" wide x 6.00" deep shall be provided at the bottom of the water tank.

Sump shall include a drain plug and the tank outlet.

Tank shall be installed in a fabricated cradle assembly constructed of structural steel.

Sufficient cross members shall be provided to properly support bottom of tank. Cross members shall be constructed of steel bar channel or rectangular tubing.

Tank shall "float" in cradle to avoid torsional stress caused by chassis frame flexing. Rubber cushions, .50" thick x 3.00" wide, shall be placed on all horizontal surfaces that the tank rests on.

Stops or other provision shall be provided to prevent an empty tank from bouncing excessively while moving vehicle.

Mounting system shall be approved by the tank manufacturer.

Fill tower shall be constructed of .50" polypropylene and shall be a minimum of 8.00" wide x 14.00" long.

Fill tower shall be furnished with a .25" thick polypropylene screen and a hinged cover.

An overflow pipe, constructed of 4.00" schedule 40 polypropylene, shall be installed approximately halfway down the fill tower and extend through the water tank and exit to the rear of the rear axle.

One (1) sleeve shall be provided in the water tank for up to 3.00" diameter plumbing to the rear.

COMPLY_____ EXCEPTION_____

WATER TANK RESTRAINT

A heavy-duty water tank restraint shall be provided.

COMPLY_____ EXCEPTION_____

HOSE BED

The hose body shall be fabricated of .125"-5052 aluminum with a nominal 38,000 psi tensile strength.

The hose bed shall be as low as practical.

Hose body width shall be a minimum of 68.00" inside.

Upper and rear edges of side panels shall have a double break for rigidity, a split tube finish shall not be acceptable.

The upper inside area of the beavertails shall be covered with brushed stainless steel to prevent damage to painted surface when hose is removed.

Flooring of the hose bed shall be removable aluminum grating with the top surface corrugated to aid in hose aeration. The grating slats shall be a minimum of .50" x 4.50" with spacing between slats for hose ventilation.

The hosebed floor shall be as low as possible (66-70") inches from the ground when the truck is fully loaded.

Hose bed shall accommodate L to R- 1000' of 5" hose \ 750' Of 2.5" hose.

COMPLY_____ EXCEPTION_____

HOSEBED DIVIDER

One (1) adjustable hosebed divider shall be furnished for separating hose.

Each divider shall be constructed of a .25" brushed aluminum sheet. Flat surfaces shall be sanded for uniform appearance, or constructed of brushed aluminum.

Divider shall be fully adjustable by sliding in tracks, located at the front and rear of the hose bed.

Divider shall be held in place by tightening bolts, at each end.

Acorn nuts shall be installed on all bolts in the hose bed which have exposed threads.

COMPLY_____ EXCEPTION_____

HOSEBED HOSE RESTRAINT

A red hosebed cover shall be furnished with bungee cord and hook fasteners at the front and bungee cord and hook fasteners on the sides. There shall be 2.00" cam buckle fasteners at the bottom of the rear body sheet below the hosebed. The flap at the rear shall be not weighted.

COMPLY_____ EXCEPTION_____

RUNNING BOARDS

Running boards shall be fabricated of .125" bright aluminum treadplate.

Each running board shall be supported by a welded 2.00" square tubing and channel assembly, which shall be bolted to the pump compartment substructure.

Running boards shall be 12.75" deep and spaced .50" away from the pump panel.

A splashguard shall be provided above the running board treadplate.

COMPLY_____ EXCEPTION_____

TAILBOARD

The tailboard shall also be constructed of .125" bright aluminum treadplate and spaced .50" from the body, as well as supported by a structural steel assembly.

The tailboard area shall be 24.00" deep in the center area and 8.00" deep to the rear of the side compartments. The tailboard shall be T-shaped. The outboard sides of the tailboard shall be

angled at 45 degrees beginning at the point where the body meets the tailboard at the outboard edge angling rearward to the rear edge of the tailboard.

The exterior side shall be flanged down and in for increased rigidity of tailboard structure.

COMPLY_____ EXCEPTION_____

4-WAY VALVE MOUNTING

The rear of the apparatus body will accommodate a Ziamatic Corporation Hydrassist valve mount Model #: SM-HV that is currently in service with all Summerville Fire Department pumpers.

COMPLY_____ EXCEPTION_____

REAR WALL, SMOOTH ALUMINUM/BODY MATERIAL

The rear facing surfaces of the center rear wall shall be smooth aluminum.

The rear facing surfaces of the bulkheads, the surface to the rear of the side body compartments, shall be smooth and the same material as the body.

Any inboard facing surfaces below the height of the hosebed shall be bright aluminum tread plate.

COMPLY_____ EXCEPTION_____

TOW BAR

A tow bar shall be installed under the tailboard at center of truck.

Tow bar shall be fabricated of 1.00" CRS bar rolled into a 3.00" radius.

Tow bar assembly shall be constructed of .38" structural angle. When force is applied to the bar, it shall be transmitted to the frame rail.

Tow bar assembly shall be designed and positioned to allow up to a 30-degree upward angled pull of 17,000 lb., or a 20,000 lb. straight horizontal pull in line with the centerline of the vehicle.

Tow bar design shall have been fully tested and evaluated using strain gauge testing and finite element analysis techniques.

COMPLY_____ EXCEPTION_____

COMPARTMENTATION

Body and compartments shall be fabricated of .125", 5052-H32 aluminum.

Side compartments shall be an integral assembly with the rear fenders.

Circular fender liners shall be provided for prevention of rust pockets and ease of maintenance.

Compartment flooring shall be of the sweep out design with the floor higher than the compartment door lip.

The compartment door opening shall be framed by flanging the edges in 1.75" and bending out again .75" to form an angle.

Drip protection shall be provided above the doors by means of bright aluminum extrusion, formed bright aluminum tread plate or polished stainless steel.

The top of the compartment shall be covered with bright aluminum tread plate rolled over the edges on the front, rear and outward side. These covers shall have the corners welded.

Side compartment covers shall be separate from the compartment tops.

Front facing compartment walls shall be covered with bright aluminum tread plate.

All screws and bolts which protrude into a compartment shall have acorn nuts on the ends to prevent injury.

COMPLY_____ EXCEPTION_____

UNDERBODY SUPPORT SYSTEM

Due to the severe loading requirements of this pumper a method of body and compartment support suitable for the intended load shall be provided.

The backbone of the support system shall be the chassis frame rails which is the strongest component of the chassis and is designed for sustaining maximum loads.

The support system shall include .375" thick steel vertical angle supports bolted to the chassis frame rails with .625" diameter bolts.

Attached to the bottom of the steel vertical angles shall be horizontal angles, with gussets welded to the vertical members, which extend to the outside edge of the body.

A steel frame shall be mounted on the top of these supports to create a floating substructure which shall result in a 500 lb. equipment support rating per lower compartment.

The floating substructure shall be separated from the horizontal members with neoprene elastomer isolators. These isolators shall reduce the natural flex stress of the chassis from being transmitted to the body.

Isolators shall have a broad load range, proven viability in vehicular applications, be of a fail-safe design and allow for all necessary movement in three (3) transitional and rotational modes.

The neoprene isolators shall be installed in a modified V three (3)-point mounting pattern to reduce the natural flex of the chassis being transmitted to the body.

A design with body compartments hanging on the chassis in an unsupported fashion shall not be acceptable.

COMPLY_____ EXCEPTION_____

AGGRESSIVE WALKING SURFACE

All exterior surfaces designated as stepping, standing, and walking areas shall comply with the required average slip resistance of the current NFPA standards.

COMPLY_____ EXCEPTION_____

LOUVERS

Louvers shall be stamped into compartment walls to provide the proper airflow inside the body compartments and to prevent water from dripping into the compartment. Where these louvers are provided, they shall be formed into the metal and not added to the compartment as a separate plate.

COMPLY_____ EXCEPTION_____

TESTING OF BODY DESIGN

Body structural analysis shall be fully tested. Proven engineering and test techniques such as finite element analysis, stress coating and strain gauging shall be performed with special attention given to fatigue, life and structural integrity of the cab, body and substructure.

Body shall be tested while loaded to its greatest in-service weight.

The criteria used during the testing procedure shall include:

- Raising opposite corners of the vehicle tires 9.00" to simulate the twisting a truck may experience when driving over a curb.

- Making a 90 degree turn, while driving at 20 mph to simulate aggressive driving conditions.

- Driving the vehicle at 35 mph on a washboard road.

- Driving the vehicle at 55 mph on a smooth road.

- Accelerating the vehicle fully, until reaching the approximate speed of 45 mph on rough pavement.

Evidence of actual testing techniques shall be made available upon request.

COMPLY_____ EXCEPTION_____

COMPARTMENTATION, DRIVER'S SIDE

A full height, roll-up door compartment ahead of the rear wheels shall be provided. The interior dimensions of this compartment shall be 34.50" wide x 58.25" high x 25.88" deep in the lower 26.00" of the compartment and 12.00" deep in the remaining upper portion. The height of the compartment shall be measured from the compartment floor to the bottom edge of the door roll. The depth of the compartment shall be calculated with the compartment door closed. The compartment interior shall be fully open from the compartment ceiling to the compartment floor and designed so that no permanent dividers are required between the upper and lower sections. The clear door opening of this compartment shall be 28.75" wide x 58.25" high.

Closing of the door shall not require releasing, unlocking, or unlatching any mechanism and shall easily be accomplished with one hand.

A roll-up door compartment over the rear wheels shall be provided. The interior dimensions of this compartment shall be 66.50" wide x 25.38" high x 12.00" deep. The height of the compartment shall be measured from the compartment floor to the bottom edge of the door roll.

The depth of the compartment shall be calculated with the compartment door closed. The clear door opening of this compartment shall be 58.25" wide x 25.12" high.

Closing of the door shall not require releasing, unlocking, or unlatching any mechanism and shall easily be accomplished with one hand.

A full height, roll-up door compartment behind the rear wheels shall be provided. The interior dimensions of this compartment shall be 47.50" wide x 58.25" high x 25.88" deep in the lower 26.00" of height and 12.00" deep in the remaining upper section of the compartment. The height of the compartment shall be measured from the compartment floor to the bottom edge of the door roll. The depth of the compartment shall be calculated with the compartment door closed. The compartment interior shall be fully open from the compartment ceiling to the compartment floor and designed so that no permanent dividers are required between the upper and lower sections. The clear door opening of this compartment shall be 44.75" wide x 58.25" high.

Closing of the door shall not require releasing, unlocking, or unlatching any mechanism and shall easily be accomplished with one hand.

COMPLY_____ EXCEPTION_____

COMPARTMENTATION, PASSENGER'S SIDE

A roll-up door compartment in the lower area ahead of the rear wheels shall be provided. The interior dimensions of this compartment shall be 34.50" wide x 26.00" high x 25.88" deep. The height of the compartment shall be measured from the compartment floor to the bottom edge of the door roll. The depth of the compartment shall be calculated with the compartment door closed. The clear door opening of this compartment shall be 28.75" wide x 25.87" high. Closing of the door shall not require releasing, unlocking, or unlatching any mechanism and shall easily be accomplished with one hand.

A roll-up door compartment in the lower area behind the rear wheels shall be provided. The interior dimensions of this compartment shall be 47.50" wide x 26.00" high x 25.88" deep. The height of the compartment shall be measured from the compartment floor to the bottom edge of the door roll. The depth of the compartment shall be calculated with the compartment door closed. The clear door opening of this compartment shall be 46.00" wide x 25.87" high. Closing of the door shall not require releasing, unlocking, or unlatching any mechanism and shall easily be accomplished with one hand.

COMPLY_____ EXCEPTION_____

SIDE COMPARTMENT ROLLUP DOORS

There shall be five (5) compartment doors installed on the side compartments, double faced, aluminum construction, satin aluminum and manufactured by R-O-M Corporation.

The slats shall be double wall box frame extrusion. The exterior surface shall be flat and the interior surface shall be concave to help loose equipment fall to the ground and prevent it from jamming the door.

Between each slat shall be a PVC inner seal to prevent metal to metal contact and prevent dirt or moisture from entering the compartments.

A stainless steel lift bar to be provided for opening the door and located at the bottom of each door with latches on the outer extrusion of the door frame. A ledge shall be supplied over the lift bar as additional area to aid in closing the door.

Each door shall have a 4.00" counter balance to assist in lifting.

A heavy-duty magnetic switch shall be used for the control of open compartment door warning lights.

COMPLY_____ EXCEPTION_____

COMPARTMENTATION, REAR

A roll-up door compartment above the rear tailboard shall be provided.

Interior dimensions of this compartment shall be 40.00" wide x 47.38" high x 25.88" deep in the lower 38.75" of height and 15.75" deep in the remaining upper portion. Depth of the compartment shall be calculated with the compartment door closed.

A louvered, removable access panel shall be furnished on the back wall of the compartment.

Rear compartment shall be open into the rear side compartments.

Clear door opening of this compartment shall be 33.25" wide x 38.75" high.

Closing of the door shall not require releasing, unlocking, or unlatching any mechanism and shall easily be accomplished with one hand.

COMPLY_____ EXCEPTION_____

REAR COMPARTMENT ROLL UP DOOR

The rear compartment door shall be a roll-up style door. The door shall be double faced aluminum construction, satin aluminum and manufactured by R-O-M Corporation.

The slats shall be a double wall box frame extrusion. The exterior surface shall be flat and the interior surface shall be concave to help loose equipment fall to the ground and prevent loose equipment from jamming the door.

Between each slat shall be a PVC inner seal to prevent metal to metal contact and prevent dirt or moisture from entering the compartments.

A stainless steel lift bar to be provided for opening the door and located at the bottom of each door with latches on the outer extrusion of the door frame. A ledge shall be supplied over the lift bar as additional area to aid in closing the door.

Each door shall have a 4.00" counter balance to assist in lifting.

A heavy-duty magnetic switch shall be used for control of open compartment door warning lights.

COMPLY_____ EXCEPTION_____

COMPARTMENT LIGHTING

There shall be six (6) compartments with Amdor Model AY-9220 white 12 volt DC LED compartment light strips.

There shall be two (2) strip lights installed vertically in each compartment opening per the latest NFPA requirements.

The lights shall be activated when the battery switch is on and the respective compartment door is opened.

COMPLY_____ EXCEPTION_____

MOUNTING TRACKS

There shall be six (6) sets of tracks for mounting shelf(s) in All compartments. These tracks shall be installed vertically to support the adjustable shelf(s), and shall be full height of the compartment. The tracks shall be painted to match the compartment interior.

COMPLY_____ EXCEPTION_____

ADJUSTABLE SHELVES

There shall be four (4) shelves with a capacity of 500 pounds provided. The shelf construction shall consist of .188" aluminum with 2.00" sides. Each shelf shall be painted to match the compartment interior. Each shelf shall be infinitely adjustable by means of a threaded fastener, which slides in a track.

The shelves shall be held in place by .12" thick stamped plated brackets and bolts.

The location shall be To Be determined.

COMPLY_____ EXCEPTION_____

PULL-OUT TRAY

There shall be two (2) slide-out trays with 2.00" sides and a capacity of 500 pounds provided. Capacity rating shall be in the extended position.

Slides (a minimum of two per tray) shall be an undermount-roller bearing type rated at 500lbs per pair with a factor of safety of 2.

To ensure years of dependable service the slides shall be coated with a finish that is tested to withstand a minimum of 1,000 hours of salt spray per ASTM B117.

To ensure years of easy operation, the slides shall require no more than a 50 pound force for push-in or pull-out movement when fully loaded after having been subjected to a 40 hour vibration (shaker) test under full load. The vibration drive file shall have been generated from accelerometer data collected from a heavy truck chassis driven over rough gravel roads in an unloaded condition. Proof of compliance shall be provided upon request.

Automatic locks shall be provided for both the "in" and "out" positions. The trip mechanism for it shall be located at the front of the tray for ease of use with a gloved hand.

Tray location shall be One (1) in the floor of the driver side compartment behind the rear wheels, and One (1) in the floor of the officer side compartment behind the rear wheels..

Heavy-duty steel angle iron assembly shall support the body under the compartment floor. It shall be attached to the chassis frame for load transfer and to reduce stress on body.

COMPLY_____ EXCEPTION_____

ALUMINUM PEGBOARD

Two (2) horizontally installed tracks, with .19ò aluminum pegboard shall be installed on the back wall of two (2) compartments. The holes shall be .281" diameter , punched 1.00" on center. The pegboard shall be spatter gray painted. The locations are in the driver side compartment ahead of the rear wheels and the driver side compartment behind the rear wheels.

Retainers shall be used to mount the pegboard to the tracks.

State the color of the Aluminum Pegboard: _____

COMPLY_____ EXCEPTION_____

RUB RAIL

Bottom edge of the side and rear of the body compartments shall be trimmed with a bright aluminum extruded rub rail.

Trim shall be 2.12" high with 1.38" flanges turned outward for rigidity.

The rub rails shall not be an integral part of the body construction, which allows replacement in the event of damage.

COMPLY_____ EXCEPTION_____

BODY FENDER CROWNS

Stainless steel fender crowns shall be provided around the rear wheel openings.

A rubber welting shall be provided between the body and the crown to seal the seam and restrict moisture from entering.

A dielectric barrier shall be provided between the fender crown fasteners (screws) and the fender sheet metal to prevent corrosion.

COMPLY_____ EXCEPTION_____

HARD SUCTION HOSE

Hard suction hose shall not be required.

COMPLY_____ EXCEPTION_____

HANDRAILS

The handrails shall be 1.25" diameter anodized aluminum extrusion, with a ribbed design, to provide a positive gripping surface.

Chrome plated end stanchions shall support the handrail. Plastic gaskets shall be used between end stanchions and any painted surfaces.

Drain holes shall be provided in the bottom of all vertically mounted handrails.

- Four (4) handrails shall be provided, two above each side pump panel.

- One (1) vertical handrail shall be provided on the driver's side body, on the front bulkhead door frame.

- One (1) vertical handrail, not less than 29.00" long, shall be located on each rear beavertail.

- One (1) full width horizontal handrail shall be provided below the hose bed at the rear of the apparatus.

COMPLY_____ EXCEPTION_____

EXTINGUISHER/AIR BOTTLE/ STORAGE (TRIANGULAR)

A total of two (2) extinguisher/air bottle/storage compartments will be provided One (1) forward of the Driver's side rear wheels and One (1) forward of the Passenger's side rear wheels. The triangular shaped compartment will be sized to fit an 8.00" diameter extinguisher in the lower area and a 8.00" diameter extinguisher in the upper area. The compartment will be approximately 25.50" deep. A partition will be provided to separate the compartment. Also inside the compartment, black rubber matting will be provided. The compartment will be furnished with a drain hole. A polished stainless steel, triangular shaped door with a chrome plated flush lift & turn latch will be provided to contain the air bottles. A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal.

COMPLY_____ EXCEPTION_____

AIR BOTTLE STORAGE (TRIPLE)

A quantity of one (1) air bottle compartment designed to hold (3) air bottles up to 7.25" in diameter x 26.00" deep will be provided on the passenger side rearward of the rear wheels. A polished stainless steel door with a chrome plated flush lift & turn latch will be provided to

contain the air bottle. A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal.

Inside the compartment, black rubber matting will be provided.

COMPLY_____ EXCEPTION_____

AIR BOTTLE COMPARTMENT STRAP

A strap will be provided in the air bottle compartment(s) to help contain the air bottles when the vehicle is parked on an incline. The strap will wrap around the neck and attach to the wall of the compartment.

COMPLY_____ EXCEPTION_____

AIR BOTTLE STORAGE (SINGLE)

A quantity of one air bottle compartment, approximately 7.50" wide x 7.50" tall x 26.00" deep, will be provided on the driver side rearward of the rear wheels. The triangular door will cover the air bottle opening, the DEF tank access, and fuel fill. The compartment will be square with angled corners. A polished stainless steel door with a chrome plated flush lift & turn latch will be provided to contain the air bottle. A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal.

Inside the compartment, black rubber matting will be provided.

COMPLY_____ EXCEPTION_____

AIR BOTTLE COMPARTMENT STRAP

A strap will be provided in the air bottle compartment to help contain the air bottle when the vehicle is parked on an incline. The strap will wrap around the neck and attach to the wall of the compartment.

COMPLY_____ EXCEPTION_____

EXTENSION LADDERS, PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2009 edition, section 5.7.1.2 requires an extension ladder.

The extension ladder is not on the apparatus as manufactured. There shall be one (1) extension ladder(s) provided and installed by the fire department. The ladder(s) shall be a 24' Alco-Lite PEL-24, two (2)-section.

ROOF LADDER, PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2009 edition, section 5.7.1.2 requires a minimum of one roof ladder.

The roof ladder is not on the apparatus as manufactured. There shall be one (1) roof ladder(s) provided and installed by the fire department. The ladder(s) shall be a 14' Alco-Lite PRL-14.

COMPLY_____ EXCEPTION_____

LADDER BRACKETS

The ladders shall be installed on the right side of the hose body in lined brackets and held in place by chrome plated, quarter-turn spring loaded clamps. The clamps shall be such that when the roof ladder is removed, the clamps can be moved a half turn to hold the extension ladder in place. The ladder brackets shall be adjustable up and down.

COMPLY_____ EXCEPTION_____

FOLDING LADDER

One (1) Alco-Lite series FL-10, 10 foot aluminum folding ladder shall be provided.

The mounting tube shall be installed on the inside of the side sheet ladder mounting brackets. A stop shall be provided to keep the ladder from sliding forward in the bracket. A nylon strap shall be provided at the rear of the tube to retain the ladder.

COMPLY_____ EXCEPTION_____

PIKE POLES PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2009 edition, Section 5.8.3 requires one (1) 8 ft or longer pike pole mounted in a bracket fastened to the apparatus.

The pike pole is not on the apparatus as manufactured. The fire department shall provide and mount the pike pole.

The pike pole(s) shall be an Akron 10' pike pole.

COMPLY_____ EXCEPTION_____

6 FT PIKE POLE PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2009 edition, Section 5.8.3 requires one (1) 6 ft pike pole or plaster hook mounted in a bracket fastened to the apparatus.

The pike pole is not on the apparatus as manufactured. The fire department shall provide and mount the pike pole.

The pike pole(s) shall be an Akron 6' pike pole.

COMPLY_____ EXCEPTION_____

PIKE POLE STORAGE

Aluminum tubing shall be used for the storage of three (3) pike poles and shall be installed behind the ground ladders on the inside of the side sheet ladder mounting brackets. If the head of a pike pole can come in contact with a painted surface, a stainless steel scuffplate shall be provided. The pike pole storage tubes shall accommodate:

1. One (1) 6-foot long with a fiberglass handle.
2. One (1) 6-foot NY Hook.
3. One (1) 10-foot long with a fiberglass handle.

All three pike poles/hooks will be furnished by the Summerville Fire Department.

COMPLY_____ EXCEPTION_____

STEPS

A folding step shall be provided on the front of each fender compartment. The step shall be bright finished, non-skid with a black coating. Each step shall incorporate an LED light to

illuminate the stepping surface. The step can be used as a hand hold with two openings wide enough for a gloved hand.

COMPLY_____ EXCEPTION_____

REAR STEPS

Aluminum treadplate corner steps and bright finished, non-skid folding steps shall be provided at the rear. The folding steps shall have a black coating. Each folding step shall incorporate an LED light to illuminate the stepping surface. The folding steps can be used as a hand hold with two openings wide enough for a gloved hand. All steps shall provide adequate surface for stepping.

Two (2) additional folding steps shall be located Two (2) on the Driver's side on the front bulkhead. The step(s) shall be bright finished, non-skid, with a black coating. Each step shall incorporate an LED light to illuminate the stepping surface. The step(s) can be used as a hand hold with two openings wide enough for a gloved hand.

COMPLY_____ EXCEPTION_____

MIDSHIP FIRE PUMP

Midship fire pump shall be a Hale QMAX-150, 1500 gpm single (1) stage midship mounted centrifugal type.

Pump shall be the class "A" type.

Pump shall deliver the percentage of rated discharges at the pressures indicated below:

- 100% of rated capacity at 150 psi net pump pressure.

- 100% of rated capacity at 165 psi net pump pressure.

-70% of rated capacity at 200 psi net pump pressure.

-50% of rated capacity at 250 psi net pump pressure.

Entire pump and both suction and discharge passages shall be hydrostatically tested to a pressure of 500 psi.

Pump shall be fully tested at the pump manufacturer's factory to the performance requirements as outlined by the current NFPA 1901 standards and shall be free from objectionable pulsation and vibration.

Pump body and related parts shall be of fine grain, alloy cast iron with a minimum tensile strength of 30,000 psi (2041.2 bar).

All moving parts in contact with water shall be of high quality bronze or stainless steel. Pumps utilizing castings made of lower tensile strength cast iron shall not be acceptable.

Pump body shall be horizontally split, on a single plane in two (2) sections, for easy removal of entire impeller assembly, including wear rings and bearings from beneath the pump, without disturbing pump piping or the mounting of the pump in the chassis.

Pump shall have one (1) double suction impeller. The pump body shall have two (2) opposed discharge volute cutwaters to eliminate radial unbalance.

Pump impeller shall be hard, fine grain bronze of the mixed flow design, accurately machined, hand-ground, and individually balanced. The vanes of the impeller intake eyes shall be hand-ground and polished to a sharp edge. They shall be of sufficient size and design to provide ample reserve capacity utilizing minimum horsepower.

Impeller clearance rings shall be bronze and easily renewable without replacing impeller or pump volute body. They shall be of the wrap-around double labyrinth design for maximum efficiency.

Pump shaft shall be electric furnace heat-treated, corrosion resistant stainless steel. It shall be super-finished under packing with galvanic corrosion (zinc separators in packing) protection for longer shaft life. Pump shaft shall be sealed with double oil seal to keep road dirt and water out of drive unit.

Pump shaft shall be rigidly supported by three (3) bearings for minimum deflection. A high lead bronze sleeve bearing shall be located immediately adjacent to the impeller (on the side opposite of the drive unit). The sleeve bearing shall be automatically oil lubricated and pressure balanced to exclude foreign material. The remaining bearings shall be heavy-duty, deep groove ball bearings in the gearbox and shall be splash lubricated.

Pump shaft shall have one (1) packing gland located on inlet side of the pump, and shall be of the split design for ease of repacking.

Packing gland shall be a full-circle threaded design to exert uniform pressure on packing and prevent "cocking" and uneven packing load when it is tightened --(No exceptions).

The packing gland shall be easily adjusted by hand (with a rod or screwdriver), no special tools or wrenches required.

Packing rings shall be of a unique, permanently lubricated, long-life graphite composition, and have sacrificial zinc foil separators to protect the pump shaft from galvanic corrosion.

COMPLY_____ EXCEPTION_____

PUMP TRANSMISSION

The drive unit shall be cast and completely manufactured and tested at the pump manufacturer's factory. The pump drive unit shall be of sufficient size to withstand up to 16,000 foot/pound of torque from the engine in both road and pump operating conditions. The drive unit shall be designed with ample lubrication reserve to maintain the proper operating temperature.

The gearbox drive shafts shall be of heat treated chrome nickel steel and at least 2.75 inches in diameter, on both the input and output drive shafts. They shall be designed to withstand the full torque of the engine in both road and pump operating conditions. All gears, both drive and pump, shall be of the highest quality, electric furnace, chrome nickel steel. Bores shall be ground to size and teeth integrated, crown-shaved and hardened, to give an extremely accurate gear for long life, smooth, quiet running and higher load carrying capability. An accurately cut spur design shall be provided to eliminate all possible end thrust.

The pump ratio shall be selected by the apparatus manufacturer to provide the maximum performance with the engine and transmission selected. Three (3) green warning lights shall be provided to indicate to the operator(s) when the pump has completed the shift from Road to pump position. Two (2) lights shall be located in the truck driving compartment and one (1) light on pump operator's panel, adjacent to the throttle control.

COMPLY_____ EXCEPTION_____

AIR PUMP SHIFT

Pump shift engagement shall be made by a two (2) position sliding collar, actuated pneumatically (by air pressure), with a three (3) position air control switch located in the cab. A manual back-up shift control shall also be located on the driverôs side pump panel.

Two (2) indicator lights shall be provided adjacent to the pump shift inside the cab. One (1) green light shall indicate the pump shift has been completed and be labeled "pump engaged". The second green light shall indicate when the pump has been engaged and the chassis transmission is in pump gear. This indicator light shall be labeled "OK to pump".

Another green indicator light shall be installed adjacent to the hand throttle on the pump panel and indicate either the pump is engaged and the road transmission is in pump gear, or the road transmission is in neutral and the pump is not engaged. This light shall be labeled "Warning: Do not open throttle unless light is on".

The pump shift control in the cab shall be illuminated to meet NFPA requirements.

COMPLY_____ EXCEPTION_____

TRANSMISSION LOCK-UP

The direct gear transmission lock-up for the fire pump operation shall engage automatically when the pump shift control, in the cab, is activated.

COMPLY_____ EXCEPTION_____

AUXILIARY COOLING SYSTEM

A supplementary heat exchange cooling system shall be provided to allow the use of water from the discharge side of the pump for cooling the engine water. Heat exchanger shall be cylindrical type and shall be a separate unit. It shall be installed in the pump or engine compartment with the control located on the pump operator's control panel. Exchanger shall be plumbed to the master drain valve.

COMPLY_____ EXCEPTION_____

INTAKE RELIEF VALVE

An Elkhart relief valve shall be installed on the suction side of the pump preset at 125 psig.

Relief valve shall have a working range of 75 psig to 250 psig.

Outlet shall terminate below the frame rails with a 2.50" National Standard hose thread adapter and shall have a "do not cap" warning tag.

Control shall be located behind an access door at a side pump panel.

COMPLY_____ EXCEPTION_____

TOTAL PRESSURE MASTER RELIEF VALVE

A Hale Total Pressure Master relief valve system shall provide both the discharge and suction protection (against excess inlet pressure) as required by NFPA pamphlet #1901 standards.

System shall monitor discharge and suction pressures through single panel mounted control valve. This shall eliminate the need for a separate spring-loaded suction relief valve.

COMPLY_____ EXCEPTION_____

PRIMING PUMP

The priming pump shall be a Trident Emergency Products compressed air powered, high efficiency, multistage venturi based AirPrime System, conforming to standards outlined in the current edition of NFPA 1901.

All wetted metallic parts of the priming system are to be of brass and stainless steel construction.

One (1) priming control shall open the priming valve and start the pump primer.

COMPLY_____ EXCEPTION_____

RECIRCULATING LINE

A 3/8" line shall be run from the discharge side of the main pump to the water tank to help keep the pump cool when water is not being discharged. This line shall be designed to circulate water from the pump back to the tank when the recirculating valve is open. This water circulation shall help to maintain the pump water temperature at a safe level. The recirculation valve shall be located on the left pump operator's panel.

COMPLY_____ EXCEPTION_____

THERMAL RELIEF VALVE

A Hale TRV120-L thermal protection device shall be included on the pump that monitors pump water temperature and opens to relieve water to cool the pump when the temperature of the pump water exceeds 120 Degrees F (49 C).

The thermal protection device shall include a red warning light. The warning light with a test switch shall be mounted on the pump operator panel.

The discharge line shall be 3/8 inch diameter tubing plumbed to ground.

COMPLY_____ EXCEPTION_____

PUMP MANUALS

Two (2) pump manuals from the pump manufacturer shall be furnished in compact disc format with the apparatus. Manuals shall cover pump operation, maintenance, and parts.

COMPLY_____ EXCEPTION_____

PLUMBING

All inlet and outlet plumbing, 3.00" and smaller, shall be plumbed with either stainless steel pipe or synthetic rubber hose reinforced with high-tensile polyester braid. If hose is used, it must have a minimum burst rating of 1,000 psi and be equipped with high pressure couplings. Larger inlets and outlets shall be threaded or welded black iron pipe. Small diameter secondary plumbing such as drain lines shall be stainless steel, brass or hose.

Where vibration or chassis flexing may damage or loosen piping or where a coupling is required for servicing, the piping shall be equipped with victaulic or rubber couplings.

All lines to drain through either a master drain valve or shall be equipped with individual drain valves. All individual drain lines for discharges shall be extended with a hose to drain below the chassis frame.

All water carrying gauge lines shall be of flexible polypropylene tubing.

COMPLY_____ EXCEPTION_____

MAIN PUMP INLETS

A 6.00" pump manifold inlet shall be provided on each side of the vehicle. The suction inlets shall include removable die cast zinc screens that are designed to provide cathodic protection for the pump, thus reducing corrosion in the pump.

The main pump inlets shall have National Standard Threads with long handle chrome caps.

The caps shall be the VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected. (no exception)

COMPLY_____ EXCEPTION_____

VALVES

All ball valves shall be Akron Brass in-line valves. The Akron valves shall be the 8000 series heavy-duty style with a stainless steel ball and a simple two-seat design. No lubrication or regular maintenance is required on the valve.

Valves shall have a ten (10) year warranty.

COMPLY_____ EXCEPTION_____

INLET (LEFT SIDE)

On the left side pump panel shall be one (1) 2.50" auxiliary suction, terminating in 2.50" National Standard Hose Thread. The auxiliary suction shall be provided with a strainer, chrome swivel and plug.

The location of the valve for the one (1) inlet shall be behind the pump panel.

COMPLY_____ EXCEPTION_____

ANODE, INLET

A pair of replaceable sacrificial .75" magnesium anodes shall be provided in the water pump to protect the pump from corrosion. One (1) shall be placed in the inlet side of the pump and the other in the discharge side of the pump.

COMPLY_____ EXCEPTION_____

INLET CONTROL

Control for the side auxiliary inlet(s) shall be located at the inlet valve.

COMPLY_____ EXCEPTION_____

INLET BLEEDER VALVE

A .75" bleeder valve shall be provided for each side gated inlet. The valves shall be located behind the panel with a swing style handle control extended to the outside of the panel. The handles shall be chrome plated and provide a visual indication of valve position. The swing handle shall provide an ergonomic position for operating the valve without twisting the wrist and provides excellent leverage. The water discharged by the bleeders shall be routed below the chassis frame rails.

COMPLY_____ EXCEPTION_____

TANK TO PUMP

The booster tank shall be connected to the intake side of the pump with heavy duty piping and a quarter turn 3.00" full flow line valve with the control remotely located at the operator's panel.

Tank to pump line shall run straight (no elbows) from the pump into the front face of the water tank and angle down into the tank sump. A rubber coupling shall be included in this line to prevent damage from vibration or chassis flexing.

A check valve shall be provided in the tank to pump supply line to prevent the possibility of "back filling" the water tank.

COMPLY_____ EXCEPTION_____

TANK REFILL

A 1.50" combination tank refill and pump re-circulation line shall be provided, using a quarter-turn full flow ball valve controlled from the pump operator's panel.

COMPLY_____ EXCEPTION_____

DISCHARGE OUTLETS (LEFT SIDE)

There shall be two (2) discharge outlets with a 2.50" valve on the left side of the apparatus, terminating with a male 2.50" National Standard hose thread adapter.

COMPLY_____ EXCEPTION_____

DISCHARGE OUTLETS (RIGHT SIDE)

There shall be two (2) discharge outlets 2.50" valve on the right side of the apparatus, terminating with a male 2.50" National Standard hose thread adapter.

COMPLY_____ EXCEPTION_____

DISCHARGE OUTLET, 4.00"

There shall be a 4.00" discharge outlet with a 4.00" Akron valve installed on the right side of the apparatus, terminating with male a 4.00" National Standard hose thread adapter. This discharge outlet shall be actuated with a handwheel control at the pump operator's control panel.

An indicator shall be provided to show when the valve is in the closed position.

COMPLY_____ EXCEPTION_____

FRONT DISCHARGE OUTLET

There shall be one (1) 1.50" discharge outlet piped to the front of the apparatus and located in the center bumper tray.

Plumbing shall consist of 2.00" piping and flexible hose with a 2.00" full flow ball valve with control at the pump operator's panel. A fabricated weldment made of stainless steel pipe shall be used in the plumbing where appropriate. The piping shall terminate with a 1.50" NST with 90 degree stainless steel swivel.

There shall be Class 1 automatic drains provided at all low points of the piping.

COMPLY_____ EXCEPTION_____

DISCHARGE OUTLET (REAR)

There shall be one (1) discharge outlet piped to the rear of the hose bed, on passenger's side, installed so proper clearance is provided for spanner wrenches or adapters. Plumbing shall consist of 2.50" piping along with a 2.50" full flow ball valve with the control from the pump operator's panel.

COMPLY_____ EXCEPTION_____

DISCHARGE CAPS

Chrome plated, rocker lug, caps with chains shall be furnished for all discharge outlets.

The caps shall be the VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected. (no exception)

COMPLY_____ EXCEPTION_____

OUTLET BLEEDER VALVE

A .75" bleeder valve shall be provided for each outlet 1.50" or larger. Automatic drain valves are acceptable with some outlets if deemed appropriate with the application.

The valves shall be located behind the panel with a swing style handle control extended to the outside of the side pump panel. The handles shall be chrome plated and provide a visual indication of valve position. The swing handle shall provide an ergonomic position for operating the valve without twisting the wrist and provides excellent leverage. Bleeders shall be located at

the bottom of the pump panel. They shall be properly labeled identifying the discharge they are plumbed in to. The water discharged by the bleeders shall be routed below the chassis frame rails.

COMPLY_____ EXCEPTION_____

LEFT SIDE OUTLET ELBOWS

The 2.50" discharge outlets, located on the left side pump panel, shall be furnished with a 2.50"(F) National Standard hose thread x 2.50"(M) National Standard hose thread, chrome plated, 45 degree elbow.

The elbow shall be Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected. (no exception)

COMPLY_____ EXCEPTION_____

ELBOWS, RIGHT SIDE OUTLETS

The 2.50" discharge outlets, located on the right side pump panel, shall be furnished with a 2.50"(F) National Standard hose thread x 2.50"(M) National Standard hose thread, chrome plated, 45 degree elbow.

The elbow shall be the VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected. (no exception)

COMPLY_____ EXCEPTION_____

REAR OUTLET ELBOWS

The 2.50" discharge outlets, located at the rear of the apparatus, shall be furnished with a 2.50"(F) National Standard hose thread x 2.50"(M) National Standard hose thread, chrome plated, 45 degree elbow.

The elbow will be Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected. (no exception)

COMPLY_____ EXCEPTION_____

ELBOW, 4.00" OUTLET

The 4.00" outlet(s) shall be furnished with one (1) 4.00"(F) National Standard hose thread x 5.00" Storz elbow adapter with Storz cap.

COMPLY_____ EXCEPTION_____

DISCHARGE OUTLET CONTROLS

The discharge outlets shall incorporate a quarter-turn ball valve with the control located at the pump operator's panel. The valve operating mechanism shall indicate the position of the valve.

If a handwheel control valve is used, the control shall be a minimum of a 3.9" diameter stainless steel handwheel with a dial position indicator built in to the center of the handwheel.

COMPLY_____ EXCEPTION_____

DELUGE RISER

A 3.00" deluge riser shall be installed above the pump in such a manner that a monitor can be mounted and used effectively. Piping shall be installed securely so no movement develops when the line is charged. The riser shall be gated and controlled at the pump operator's panel with a handwheel control.

COMPLY_____ EXCEPTION_____

TELESCOPIC PIPING

The deluge riser piping shall include a 18.00" Task Force Model XG18 Extend-A-Gun extension.

This extension shall be telescopic to allow the deluge gun to be raised 18.00" increasing the range of operation.

A position sensor shall be provided on the telescopic piping that shall activate the "do not move vehicle" light inside the cab when the monitor is in the raised position.

The deluge riser shall have male National Pipe Threads for mounting the monitor.

COMPLY_____ EXCEPTION_____

CROSSLAY HOSE BEDS

Two (2) crosslays with 1.50" outlets shall be provided. Each bed to be capable of carrying 200 feet of 1.75" double jacketed hose and shall be plumbed with 2.00" i.d. pipe and gated with a 2.00" quarter turn ball valve.

Outlets to be equipped with a 1.50" National Standard hose thread 90 degree swivel located in the hose bed so that hose may be removed from either side of apparatus.

The crosslay controls shall be at the pump operator's panel.

The center crosslay dividers shall be fabricated of .25" aluminum and shall provide adjustment from side to side. The divider shall be unpainted with a brushed finish.

Vertical scuffplates, constructed of stainless steel, shall be provided at the front and rear ends of the bed on each side of vehicle.

Crosslay bed flooring shall consist of removable perforated brushed aluminum.

COMPLY_____ EXCEPTION_____

CROSSLAY HOSE BED, 2.50"

One (1) crosslay with a 2.50" outlet shall be provided. The bed to be capable of carrying 250' of 2.5" hose and shall be plumbed with 2.50" i.d. pipe and gated with a 2.50" quarter turn ball valve.

The outlet to be equipped with a 2.50" National Standard hose thread 90 degree swivel located in the hose bed so that hose may be removed from either side of apparatus.

The crosslay control shall be at the pump operator's panel.

The center crosslay dividers shall be fabricated of .25" aluminum and shall provide adjustment from side to side. The divider shall be unpainted with a brushed finish. The remainder of the crosslay bed shall be painted job color.

Stainless steel vertical scuffplates shall be provided at hose bed ends (each side of vehicle). Bottom of hose bed ends (each side) shall also be equipped with a stainless steel scuffplate.

Crosslay bed flooring shall consist of removable perforated brushed aluminum.

Crosslay compartment # 1 and #2 will hold a minimum of 200 ft. of 1.75" double jacket hose in a single stack. Crosslay compartment # 3 will hold a minimum of 300ft. of 1.75ò double jacket

hose. All three crosslay compartments hose loads utilize a tri-fold load to maximize space and for ease of deploying the hoseload.

COMPLY_____ EXCEPTION_____

CROSSLAY/DEADLAY HOSE RESTRAINT

There shall be a one (1) piece red vinyl cover provided across the top and each end of three (3) crosslay/deadlay(s) to secure the hose during travel. The vinyl top shall be attached at the front and rear of the crosslay/deadlay(s) with velcro with snaps. Each vinyl end flap shall have 1.00" web straps that loop through footman loops at the bottom of the crosslay/deadlay(s) and fasten with 1.00" cam buckle fasteners.

COMPLY_____ EXCEPTION_____

CROSSLAY 9.00" LOWER THAN STANDARD

The crosslays shall be lowered 9.00" from standard.

COMPLY_____ EXCEPTION_____

FOAM SYSTEM

A foam system shall not be required on this apparatus.

COMPLY_____ EXCEPTION_____

PUMP COMPARTMENT

The pump compartment shall be separate from the hose body and compartments so that each may flex independently of the other. It shall be a fabricated assembly of steel tubing, angles and channels which supports both the fire pump and the side running boards.

The pump compartment shall be mounted on the chassis frame rails with rubber biscuits in a four point pattern to allow for chassis frame twist.

Pump compartment, pump, plumbing and gauge panels shall be removable from the chassis in a single assembly.

COMPLY_____ EXCEPTION_____

PUMP CONTROL PANELS (SIDE CONTROL)

All pump controls and gauges shall be located at the left (driver's) side of the apparatus and properly marked.

The pump panel on the right (passenger's) side is removable with lift and turn type fasteners. The left (driver's) side is fastened with screws.

The control panels shall be 45.00" wide.

The gauge and control panels shall be two (2) separate panels for ease of maintenance.

Polished stainless steel trim collars shall be installed around all inlets and outlets.

All push/pull valve controls shall have 1/4 turn locking control rods with polished chrome plated zinc tee handles. Guides for the push/pull control rods shall be chrome plated zinc castings securely mounted to the pump panel. Push/pull valve controls shall be capable of locking in any position. The control rods shall pull straight out of the panel and shall be equipped with universal joints to eliminate binding.

The identification tag for each valve control shall be recessed in the face of the tee handle.

All discharge outlets shall have color coded identification tags, with each discharge having its own unique color. Color coding shall include the labeling of the outlet and the drain for each corresponding discharge.

All line pressure gauges shall be mounted in individual chrome plated castings with the identification tag recessed in the casting below the gauge. All remaining identification tags shall be mounted on the pump panel in chrome plated bezels. Mounting of the castings and identification bezels shall be done with a threaded peg cast on the back side of the bezel or screws.

COMPLY_____ EXCEPTION_____

PUMP PANEL CONFIGURATION

The pump panel configuration shall be neat and orderly.

COMPLY_____ EXCEPTION_____

PUMP AND GAUGE PANEL

The pump and gauge panels shall be constructed of black vinyl covered aluminum, to allow easy identification of the gauges and controls and to eliminate glare.

The black vinyl shall be bonded to the aluminum, by the company that supplies the product.

A polished aluminum trim molding shall be provided around each panel.

The passenger's side pump panel shall be removable and fastened with swell type fasteners.

COMPLY_____ EXCEPTION_____

PUMP COMPARTMENT LIGHT

A pump compartment light shall be provided inside the right side pump enclosure and accessible through a door on the pump panel.

A .125" weep hole shall be provided in each light lens, preventing moisture retention.

COMPLY_____ EXCEPTION_____

PUMP PANEL GAUGES AND CONTROLS

The following shall be provided on the pump and gauge panels in a neat and orderly fashion:

- Class 1 Enfo 3 System: With LED display of the engine oil pressure, engine temperature and engine rpm. A warning alarm shall be provided for these items.

- Tachometer: Electric

- Voltmeter

Also provided at the pump panel shall be the following:

- Master Pump Drain Control

- Engine Throttle, Vernier Type

COMPLY_____ EXCEPTION_____

AIR HORN BUTTON

An air horn control button shall be provided at the pump operator's control panel. This button shall be red in color and properly labeled and put within easy reach of the operator.

COMPLY_____ EXCEPTION_____

COLOR CODED NAME TAGS

There shall be seven (7) outlet discharges with special color coded name tags. These tags shall be used for labeling the discharge pressure gauges, controls, outlets and drains. Tank to Pump (Black), Front Jump Line (Orange), No.1 Crosslay (Red), No. 2 Crosslay (Yellow), No. 3 Crosslay (Brown), Rear Discharge (Lime Green), Tank Fill (Black), Discharge No. 3 (Pink).

COMPLY_____ EXCEPTION_____

GAUGES, VACUUM AND PRESSURE

The pump vacuum and pressure gauges shall be liquid filled and manufactured by Class 1, Inc.

The gauges shall be a minimum of 6.00" in diameter and shall have white faces with black lettering, with a pressure range of 30.00"-0-600#.

The pump pressure and vacuum gauges shall be installed adjacent to each other at the pump operator's control panel.

Test port connections shall be provided at the pump operator's panel. One shall be connected to the intake side of the pump, and the other to the discharge manifold of the pump. They shall have 0.25 in. standard pipe thread connections and polished stainless steel plugs. They shall be marked with a label.

COMPLY_____ EXCEPTION_____

PRESSURE GAUGES

The individual "line" pressure gauges for the discharges shall be interlube filled and manufactured by Class 1.

The gauges shall be a minimum of 3.50" in diameter and shall have white faces with black lettering.

Gauges shall be compound type with a vacuum/pressure range of 30.00"-0-600#.

The individual pressure gauge shall be installed as close to the outlet control as practical.

COMPLY_____ EXCEPTION_____

WATER LEVEL GAUGE

An electronic water level gauge shall be provided on the operator's panel that registers water level by means of five colored LED lights. The lights shall be durable, ultra-bright five LED design viewable through 180 degrees. The water level indicators shall be as follows:

Å 100% = Green

Å 75% = Yellow

Å 50% = Yellow

Å 25% = Yellow

Å Refill = Red

The light shall flash when the level drops below the given level indicator to provide an eighth of a tank indication. To further alert the pump operator, the lights shall flash sequentially when the water tank is empty.

The level measurement shall be based on the sensing of head pressure of the fluid in the tank.

The display shall be constructed of a solid plastic material with a chrome plated die cast bezel to reduce vibrations that can cause broken wires and loose electronic components. The encapsulated design shall provide complete protection from water and environmental elements. An industrial pressure transducer shall be mounted to the outside of the tank. The field calibratable display measures head pressure to accurately show the tank level.

State brand and model of Water Level Gauge:_____

_____

COMPLY_____ EXCEPTION_____

STEP/LIGHT SHIELD

There shall be an aluminum treadplate stepping surface no less than 8.00" deep and properly reinforced to support a man's weight, installed over the pump operators panel.

Å There shall be 12 volt DC white LED lights installed under the step to illuminate the controls, switches, essential instructions, gauges and instruments necessary for the operation of the apparatus. These lights shall be activated by the pump panel light switch. Additional lights shall be included every 18.00" depending on the size of the pump house.

Å One (1) pump panel light shall come on when the pump is in ok to pump mode.

There shall be a light activated above the pump panel light switch when the parking brake is set. This is to afford the operator some illumination when first approaching the control panel.

There shall be a green pump engaged indicator light activated on at the operator's panel when the pump is shifted into gear from inside the cab.

There shall be one (1) white LED, step light provided above this step. In order to ensure exceptional illumination, each step light shall provide a minimum of 25 foot-candles (fc) covering an entire 15" x 15" square placed ten (10) inches below the light and a minimum of 1.5 fc covering an entire 30" x 30" square at the same ten (10) inch distance below the light. The step light shall be activated by the pump panel light switch.

COMPLY_____ EXCEPTION_____

ADDITIONAL STEP/LIGHT SHIELD

There shall be an additional aluminum treadplate stepping surface no less than 8.00" deep and properly reinforced to support a man's weight, installed over the passenger's side pump panel.

Å There shall be 12 volt DC white LED lights installed under the step to illuminate the controls, switches, essential instructions, gauges, and instruments necessary for the operation of the apparatus. These lights shall be activated by the pump panel light switch. Additional lights shall be included every 18.00" depending on the size of the pump house.

There shall be one (1) white LED, step light provided above the step. In order to ensure exceptional illumination, each step light shall provide a minimum of 25 foot-candles (fc) covering an entire 15" x 15" square placed ten (10) inches below the light and a minimum of 1.5 fc covering an entire 30" x 30" square at the same ten (10) inch distance below the light. The step light shall be activated by the pump panel light switch.

COMPLY_____ EXCEPTION_____

ELECTRONIC SIREN

A Whelen, Model: 295SLSA1, electronic siren with noise canceling microphone shall be provided.

This siren to be active when the battery switch is on and that emergency master switch is on.

Electronic siren head shall be located in the center console.

The electronic siren shall be controlled on the siren head only. No horn button or foot switches shall be required.

COMPLY_____ EXCEPTION_____

SPEAKER

There shall be one (1) speaker provided. Each speaker shall be a Whelen model SA315P black nylon composite, 100-watt, with through bumper mounting brackets. Each speaker shall be connected to the siren amplifier.

The speaker(s) shall be recessed in the front bumper on the driver's side.

COMPLY_____ EXCEPTION_____

MECHANICAL SIREN, (AUXILIARY)

A Federal Q2B siren shall be furnished. A siren brake button shall be installed on the switch panel.

The control solenoid shall be powered up after the emergency master switch is activated.

The mechanical siren shall be mounted on the bumper deckplate. It shall be mounted on the left side. The siren mounting shall include a reinforcement plate.

The mechanical siren shall be actuated by a foot switch on the officer's side and by the horn button in the steering wheel. The driver shall have the option to control the siren or the chassis horns from the horn button by means of a selector switch located on the instrument panel.

COMPLY_____ EXCEPTION_____

SIREN PROGRAMMING

The electronic siren shall be programmed to include the warble and whoop tones.

COMPLY_____ EXCEPTION_____

LIGHTBAR, CAB ROOF

There shall be a 88.00" Whelen Freedom Model FN**QLED lightbar mounted on the cab roof.

The lightbar shall include the following:

Å Four (4) red flashing LED modules facing forward.

Å Two (2) white flashing LED modules facing forward.

Å Two (2) red flashing corner LED modules, one in each front corner.

Å One (1) red flashing LED module facing the driver's side.

Å One (1) red flashing LED module facing the officer's side.

All lenses shall be clear.

There shall be a switch located in the cab on the switch panel to control this lightbar.

The white warning lights shall be disabled when the parking brake is applied.

The two (2) red flashing LED modules facing forward may be load managed when the parking brake is applied.

COMPLY_____ EXCEPTION_____

FRONT ZONE LOWER LIGHTS

There shall be one (1) pair of Whelen, Model 60*02F*R, flashing LED lights installed on the cab face above the headlights, in a common bezel with the directional lights.

The color of these lights shall be red Super LED/red lens.

There shall be a switch located in the cab on the switch panel to control the lights.

COMPLY_____ EXCEPTION_____

SIDE ZONE LOWER LIGHTING

Six (6) flashing super LED lights shall be located at the following positions:

Two (2) lights, one (1) each side on the bumper extension - red Super LED/red lens each side.

Two (2) lights, behind the crew cab doors - red Super LED/rd lens each side.

Two (2) lights, centered over rear wheels - red Super LED/red lens each side.

There shall be a switch located in the cab on the switch panel to control the lights.

These lights shall be installed with three (3) pairs of flange kits.

COMPLY_____ EXCEPTION_____

SIDE WARNING LIGHTS

There shall be four (4) Whelen, Model WIONSMC* LED light(s) provided and located One (1) as far forward in the front rub rail and One (1) as far rearward in the rear rub rail (on each side of truck).

The color of each light shall be red LED with a clear lens.

Each light shall be provided with a chrome plated ABS flange.

The light(s) shall be activated with the side warning switch.

COMPLY_____ EXCEPTION_____

REAR ZONE LOWER LIGHTING

There shall be two (2) Whelen, Model 60*02F*R, LED, red Super LED/clear lens lights located at the rear of the apparatus.

Each light shall be mounted in a cast aluminum housing.

There shall be a switch located in the cab on the switch panel to control the lights.

COMPLY_____ EXCEPTION_____

REAR/SIDE ZONE UPPER WARNING LIGHTS

There shall be two (2) Whelen, Model L31H*FN, LED warning beacons provided at the rear of the truck, located one (1) each side. There shall be a switch located in the cab on the switch panel to control the beacons.

The color of the lights shall be red LEDs with both domes red.

The rear warning lights shall be mounted on stainless steel brackets with all wiring totally enclosed. These brackets shall also support the deck lights and clearance/marker lights.

COMPLY_____ EXCEPTION_____

110 VOLT INTERIOR RECEPTACLE

Receptacle shall be a NEMA 5-15, 120 volt, 15 amp, three (3) wire duplex household type connected to the shoreline.

There shall be one (1) receptacle provided in the bottom Right Hand corner of the Rear facing EMS compartment.

COMPLY_____ EXCEPTION_____

INSTALLATION OF RADIO AND ANTENNA:

The apparatus manufacturer shall install two (2) Fire Department radios and (1) antenna from the loose equipment. Exact location of the radios and antennae will be determined at the Pre-Construction Conference.

COMPLY_____ EXCEPTION_____

LOOSE EQUIPMENT

The following equipment shall be furnished with the completed unit:

- One (1) bag of chrome, stainless steel, or cadmium plated screws, nuts, bolts and washers, as used in the construction of the unit

A. One (1) Motorola APX6500 7/800MHZ Mid Power Mobile, Part number M25URS9PW1AN.

B. One (1) Motorola ENH: Astro Digital CAI/OP APX, Part number Q806BE.

C. One (1) Motorola ENH: Hand Mic, GCAI Water Resistant, Part number G892AB.

D. One (1) Motorola ADD: Palm Microphone, Part number W22BA.

E. One (1) Motorola ENH: 2 Year SFS Lite, Part number G24AX.

F. One (1) Motorola ADD: Remote Mount, Part number G67.

G. One (1) Motorola ADD: Impact Green Color Housing, Part number GA201AA.

H. One (1) Motorola ADD: Remote Mount CBL 50ô, Part number G609AC.

I. One (1) Motorola ADD: Control Head Software, Part number G444AE.

J. One (1) Motorola ENH: Smart Zone Operation APX 6500, Part number G51AU.

K. One (1) Motorola SW Key Supplemental Data, Part number QA01749AB.

L. One (1) Motorola ADD: P25 Trunking Software, Part number G361AH.

M. One (1) Motorola ADD: ANT 3 DB Low Profile, Part number G174AD.

N. Two (2) Motorola Auxilary Speakers 7.5 Watt, Part number B18CR.

O. One (1) Motorola ADD: GPS Activation, Part number GA00229AA.

P. One (1) Motorola ADD: RS232 Packet Data Interface, Part number W947AT.

Q. One (1) Motorola ADD: APX 02 Control Head, Part number GA00804AB.

R. One (1) Motorola ADD: Dual Control HD Hardware, Part number GA0092AC.

S. One (1) 800 MHz radio antennae.

T. One (1) Kockeck 6ò NST Male adapter mount, Part number MM601.

U. One (1) Kocheck 4 ½ò NST Male adapter mount, Part number MM4501.

V. One (1) Zico Bolt Cutter Bracket, Part number BCB.

W. Six (6) Red head brass universal spanner wrenches style 101.

X. Six (6) Performance Advantage Company (PAC Tools) Toolokôs, Part number 1003.

Y. Four (4) Performance Advantage Company (Pac Tools) Handlelokôs, Part number 1004.

Z. One (1) Performance Advantage Company (Pac Tools) Ironsloc, Part number K5003.

AA. One (1) Honda EU 3000 is generator, Part number EU-3000is.

BB. One (1) True North L2 RIT Bag.

CC. One (1) Fire Hooks Unlimited: HYDRA-RAM One-man Hydraulic Forcible Entry Tool.

DD. One (1) Firehooks unlimited 30ò Wide ADZ Pro Bar one piece halligan tool, Part number WA-PRO-30.

EE. Five (5) Elkhart Brass 1.5ò Select-O-Matic Nozzle 2-12, Part number SM-20FG.

FF. Two (2) Elkhart Brass 2.5ò Elkhart Playpipe, 2.5" NST w/ Intregral Shutoff. Part# B-877A Elk-O-Lite Playpipe Combination with Triple Stacked Tips. Combination of Part #B-278 playpipe and Part #ST-190-BA triple stacked smooth bore tips.

GG. Ground Ladders:

a) One (1) Alco-Lite series FL-10, 10 foot aluminum folding ladder.

HH. Skull Saver:

a) One (1) R and B Fab Ladder Boot Large 9ò x 24ò.

II. Deck Gun, Deck Gun Tips, Stream Straighter, Truck Mount Base, Portable Base:

a) One (1) Task Force Tips (tft) xft-nj crossfire monitor top 2.50ònh (65mm) outlet monitor shall be properly installed on the deluge riser. The monitor shall include a task force tips (tft) xf-ss10 - stream straightener 10ò 2.50ò nh (65mm) threads. An task force tips (tft) mst-4nj - 4 stacked tips, 2.50ò nh (65mm) designed for monitor use, these lightweight tips are hard coat anodized, allow four orifice options in one, and have pressure/flow charts laser engraved on each tip. 2.50ò nh (65mm) shall be provided including tip sizes of 1.375ò (35mm), 1.50ò (38mm), 1.75ò (45mm), and 2.00ò (50mm). The monitor shall include both a fixed mounting base task force tips (tft) xff-apl - truck adapter, 3.00ò npt female which will be screwed directly on a 3.00ò npt (75mm) male thread. Also provided will be a task force tips (tft) safe-tak 1250 portable base with safe-tak valve is supplied with two clappered swivel inlets which includes a safety tie-down strap with attached storage cap. An task force tips (tft) xf-b - crossfire storage bracket a 13 ga., 304 stainless steel bracket with strap holds the the safe-tak 1250 portable base securely while being transported. This brackets dimensions are 14.75ò x 7.75ò x 2ò (37.5 x 19.7 x 5.1cm).

JJ. Five (5) Streamlight Vulcan LED model rechargeable handlights shall be provided.

Four (4) charging units for handlights shall be mounted on the apparatus. One (1) charging unit shall be shipped loose.

KK. Hose:

a) Nine (9) ï 50ô sections of 2.5ò cotton jacketed hose. Color: White.

b) Twelve (12) ï 50ô sections of 1.75ò cotton jacketed hose. Color: White.

LL. One (1) MSA Evolution 6000 series Plus with range finder thermal imaging camera with a fire station charging kit shall be provided.

MM. One (1) Elkhart Brass Model 9786 Elk-O-Lite Piston Intake Valve with a 5ò Storz Discharge and a 6ò NST Female Inlet.

NN. One (1) Stihl MS-271 chainsaw with an 18ò ROLLOMATIC® E guide bar.

OO. One (1) Euramco Gasoline Powered PPV - Ramfan GF165.

PP. Two (2) Zico Model SAC-44 wheel ñchocksò with SQCH-44-V holders.

COMPLY_____ EXCEPTION_____

PAINT

The exterior custom cab and body painting procedure shall consist of a seven (7) step finishing process as follows:

1. Manual Surface Preparation - All exposed metal surfaces on the custom cab and body shall be thoroughly cleaned and prepared for painting. Surfaces that shall not be painted include all chrome plated, polished stainless steel, anodized aluminum and bright aluminum treadplate. Each imperfection on the exterior metal surface shall be removed or filled and then sanded smooth for a smooth appearance. All seams shall be sealed before painting.

2. Chemical Cleaning and Treatment - The metal surfaces shall be properly cleaned using a high pressure and high temperature acid etching system. Surfaces are chemically cleaned to remove all dirt, oil, grease and metal oxides to ensure the subsequent coatings bond well. An ultra pure water final rinse shall be applied to all metal surfaces, excluding undercarriage components, at the conclusion of the metal treatment process.

3. Primer/Surfacer Coats - A two (2) component urethane primer/surfacer shall be hand applied to the chemically treated metal surfaces to provide a strong corrosion protective base coat and to smooth out the surface.

4. Hand Sanding - The primer/surfacer coat shall be lightly sanded to an ultra smooth finish.

5. Sealer Primer Coat - A two (2) component sealer primer coat shall be applied over the sanded primer.

6. Topcoat Paint - Urethane base coat shall be applied to opacity for correct color matching.

7. Clearcoat - Two (2) coats of an automotive grade two (2) component urethane shall be applied. Lap style doors shall be clear coated to match the body. Roll-up doors shall not be clear coated and the standard roll-up door warranty shall apply.

All removable items such as brackets, compartment doors, door hinges, trim, etc. shall be removed and painted separately to insure paint behind all mounted items. Body assemblies that cannot be finish painted after assembly shall be finish painted before assembly.

The cab will have a two-tone color scheme with White being applied to the top of the cab, and Red applied to the lower half of the cab. The rear body shall be all one color painted Red.

The exact shade of White and Red shall be determined at the pre-construction conference. The manufacturer shall provide sample paint chips at the pre-construction conference.

The paint break at the front of the cab will curve down and meet at the top of the front grill.

COMPLY_____ EXCEPTION_____

PAINT - ENVIRONMENTAL IMPACT

Contractor shall meet or exceed all current State (his) regulations concerning paint operations. Pollution control shall include measures to protect the atmosphere, water and soil. Controls shall include the following conditions:

- Topcoats and primers shall be chrome and lead free.

- Metal treatment chemicals shall be chrome free. The wastewater generated in the metal treatment process shall be treated on-site to remove any other heavy metals.

- Particulate emission collection from sanding operations shall have a 99.99% efficiency factor.

- Particulate emissions from painting operations shall be collected by a dry filter or water wash process. If the dry filter means is used, it shall have an efficiency rating of 98.00%. Water wash systems shall be 99.97% efficient.

- Water from water wash booths shall be reused. Solids shall be removed mechanically on a continual basis to keep the water clean.

- Paint wastes are disposed of in an environmentally safe manner. They are used as fuel in kilns used in the cement manufacturing process - thereby extracting energy from a waste material.

- Empty metal paint containers shall be cleaned, crushed and recycled to recover the metal.

- Solvents used in cleanup operations shall be collected, sent off-site for distillation and returned for reuse. Residue from the distillation operation shall be used as fuel in off-site cement kilns.

Additionally, the finished apparatus shall not be manufactured with or contain products that have ozone depleting substances. Contractor shall, upon demand, present evidence that his manufacturing facility meets the above conditions and that it is in compliance with his State EPA rules and regulations.

COMPLY_____ EXCEPTION_____

PAINT CHASSIS FRAME ASSEMBLY

The chassis frame assembly shall be painted black before the installation of the cab and body and before installation of the engine and transmission assembly, air brake lines, electrical wire harnesses, etc.

Components that are included with the chassis frame assembly that shall be painted are:

Å Frame rails

Å Frame liners

Å Cross members

Å Axles

Å Suspensions

Å Steering gear

Å Battery boxes

Å Bumper extension weldment

- Frame extensions
- Body mounting angles
- Rear Body support substructure (front and rear)
- Pump house substructure
- Air tanks
- Fuel tank
- Castings
- Individual piece parts used in chassis and body assembly

Components treated with epoxy E-coat protection prior to paint:

- Two (2) C-channel frame rails
- Two (2) frame liners

COMPLY_____ EXCEPTION_____

COMPARTMENT INTERIOR PAINT

The interior of compartmentation shall be painted with a gray spatter type paint.

COMPLY_____ EXCEPTION_____

REFLECTIVE BAND

An 8.00" white reflective band shall be provided across the front of the vehicle and along the sides of the cab and body.

COMPLY_____ EXCEPTION_____

STRIPE, REFLECTIVE ON CAB FACE

The reflective band provided on the cab face shall be located below the stainless steel trim band and the front bumper.

COMPLY_____ EXCEPTION_____

CHEVRON STRIPING, REAR

There shall be alternating chevron striping located on the rear-facing vertical surface of the apparatus. The rear surface, excluding the rear compartment door, shall be covered.

The colors shall be alternating ruby red and lemon yellow reflective.

Each stripe shall be 6.00" in width.

This shall meet the requirements of NFPA 1901, 2009 edition, which states that 50% of the rear surface shall be covered with chevron striping.

COMPLY_____ EXCEPTION_____

JOG(S) IN REFLECTIVE BAND

The reflective band located on each side of the apparatus body shall contain one (1) jog(s) and shall be angled at approximately 45 degrees when installed.

COMPLY_____ EXCEPTION_____

REFLECTIVE OUTLINE STRIPE

A .25" black reflective outline shall be applied to the top and the bottom of the reflective band. There shall be one (1) set of outline stripes required.

COMPLY_____ EXCEPTION_____

REFLECTIVE STRIPE INSIDE RUBRAILS

A reflective stripe shall be provided inside the extruded aluminum rubrails. The reflective material shall be white. There shall be a quantity of four (4) rubrails striped.

COMPLY_____ EXCEPTION_____

STOP SIGN, REFLECTIVE, CAB DOORS

A 12.00" x 12.00" reflective stop sign shall be provided on the interior of each cab door. The stop sign shall be located on the stainless steel door panel.

This sign shall meet the NFPA 1901 requirement.

COMPLY_____ EXCEPTION_____

LETTERING

All lettering for the fire apparatus will be done by a local vendor in the Charleston, SC area.

FIRE APPARATUS PARTS CD MANUAL

There shall be two (2) custom parts manuals for the complete fire apparatus provided in CD format with the completed unit.

The manuals shall contain the following:

- Job number
- Part numbers with full descriptions
- Table of contents
- Parts section sorted in functional groups reflecting a major system, component, or assembly
- Parts section sorted in Alphabetical order
- Instructions on how to locate parts

The manuals shall be specifically written for the chassis and body model being purchased. It shall not be a generic manual for a multitude of different chassis and bodies.

COMPLY_____ EXCEPTION_____

SERVICE PARTS INTERNET SITE

The service parts information included in these manuals are also available on the factory website. The website offers additional functions and features not contained in this manual, such as digital photographs and line drawings of select items. The website also features electronic search tools to assist in locating parts quickly.

COMPLY_____ EXCEPTION_____

CHASSIS SERVICE CD MANUALS

There shall be two (2) CD format chassis service manuals containing parts and service information on major components provided with the completed unit.

The manual shall contain the following sections:

Å Job number

Å Table of contents

Å Troubleshooting

Å Front Axle/Suspension

Å Brakes

Å Engine Tires

Å Wheels

Å Cab

Å Electrical, DC

Å Air Systems

Å Plumbing

Å Appendix

The manual shall be specifically written for the chassis model being purchased. It shall not be a generic manual for a multitude of different chassis and bodies.

COMPLY_____ EXCEPTION_____

CHASSIS OPERATION CD MANUALS

There shall be two (2) CD format chassis operation manuals provided.

ONE (1) YEAR MATERIAL AND WORKMANSHIP

Each new piece of apparatus shall be provided with a minimum one (1) year basic apparatus material and workmanship limited warranty. The warranty shall cover such portions of the apparatus built by the manufacturer as being free from defects in material and workmanship that would arise under normal use and service.

A copy of the warranty certificate shall be submitted with the bid package. (no exception).

COMPLY_____ EXCEPTION_____

ENGINE WARRANTY

A Cummins five (5) year limited engine warranty shall be provided. A copy of the warranty certificate shall be submitted with the bid package.

COMPLY_____ EXCEPTION_____

STEERING GEAR WARRANTY

A TRW one (1) year limited steering gear warranty shall be provided. A copy of the warranty certificate shall be submitted with the bid package.

COMPLY_____ EXCEPTION_____

FIFTY (50) YEAR STRUCTURAL INTEGRITY

The chassis frame shall be provided with a fifty (50) year material and workmanship limited warranty. The warranty shall cover the chassis frame as being free from defects in material and workmanship that would arise under normal use and service.

A copy of the warranty certificate shall be submitted with the bid package (no exception).

COMPLY_____ EXCEPTION_____

FRONT AXLE TWO (2) YEAR MATERIAL AND WORKMANSHIP WARRANTY

A MeritorÊ Axle 2 year limited warranty shall be provided.

COMPLY_____ EXCEPTION_____

REAR AXLE TWO (2) YEAR MATERIAL AND WORKMANSHIP WARRANTY

A MeritorÊ Axle 2 year limited warranty shall be provided.

ABS BRAKE SYSTEM THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY

A Meritor WabcoÊ ABS brake system three (3) year limited warranty shall be provided.

COMPLY_____ EXCEPTION_____

TEN (10) YEAR STRUCTURAL INTEGRITY

The new cab shall be provided with a ten (10) year material and workmanship limited warranty. The warranty shall cover such portions of the cab built by the manufacturer as being free from structural failures caused by defects in material and workmanship that would arise under normal use and service.

A copy of the warranty certificate shall be submitted with the bid package (No Exception).

COMPLY_____ EXCEPTION_____

TEN (10) YEAR PRO-RATED PAINT AND CORROSION

Each new piece of apparatus shall be provided with a ten (10) year pro-rated paint and corrosion limited warranty on the apparatus cab. The warranty shall cover painted exterior surfaces of the body to be free from blistering, peeling, corrosion, or any other adhesion defect caused by defective manufacturing methods or paint material selection that would arise under normal use and service.

A copy of the warranty certificate shall be submitted with the bid package (No Exception).

COMPLY_____ EXCEPTION_____

TRANSMISSION WARRANTY

The transmission shall have a **five (5) year/unlimited mileage warranty** covering 100 percent parts and labor. The warranty is to be provided by Allison Transmission and not the apparatus builder.

COMPLY_____ EXCEPTION_____

TRANSMISSION COOLER WARRANTY

The transmission cooler shall carry a five (5) year parts and labor warranty (exclusive to the transmission cooler). In addition, a collateral damage warranty shall also be in effect for the first

three (3) years of the warranty coverage and shall not exceed $10,000 per occurrence. A copy of the warranty certificate shall be submitted with the bid package.

COMPLY_____ EXCEPTION_____

WATER TANK WARRANTY

The UPF poly water tank shall be provided with a lifetime material and workmanship limited warranty.

A copy of the warranty certificate shall be submitted with the bid package (No Exception).

COMPLY_____ EXCEPTION_____

TEN (10) YEAR STRUCTURAL INTEGRITY

Each new piece of apparatus shall be provided with a ten (10) year material and workmanship limited warranty on the apparatus body. The warranty shall cover such portions of the apparatus built by the manufacturer as being free from defects in material and workmanship that would arise under normal use and service.

A copy of the warranty certificate shall be submitted with the bid package (No Exception).

COMPLY_____ EXCEPTION_____

ROLL UP DOOR MATERIAL AND WORKMANSHIP WARRANTY

A R-O-M Corporation roll-up door limited warranty shall be provided. The mechanical components of the roll-up door shall be warranted against defects in material and workmanship for a period of seven (7) years. The door ajar switch shall be warranted for a period of three (3) years and all other electrical components shall be warranted for a period of one (1) year. A seven (7) year limited warranty shall be provided on painted roll up doors.

A copy of the warranty certificate shall be submitted with the bid package.

COMPLY_____ EXCEPTION_____

PUMP WARRANTY

The Hale five (5) year limited warranty on parts and two (2) year limited warranty on labor shall be provided for the pump.

A copy of the warranty certificate shall be submitted with the bid package (No Exception).

COMPLY_____ EXCEPTION_____

TEN (10) YEAR PUMP PLUMBING WARRANTY

The stainless steel plumbing components and ancillary brass fittings used in the construction of the water/foam plumbing system shall be warranted for a period of **ten (10) years or 100,000 miles.** This covers structural failures caused by defective design or workmanship, or perforation caused by corrosion, provided the apparatus is used in a normal and reasonable manner. This warranty is extended only to the original purchaser for a period of ten years from the date of delivery.

A copy of the warranty certificate shall be submitted with the bid package. (no exception)

COMPLY_____ EXCEPTION_____

TEN (10) YEAR PRO-RATED PAINT AND CORROSION

Each new piece of apparatus shall be provided with a ten (10) year pro-rated paint and corrosion limited warranty on the apparatus body. The warranty shall cover painted exterior surfaces of the body to be free from blistering, peeling, corrosion, or any other adhesion defect caused by defective manufacturing methods or paint material selection that would arise under normal use and service.

A copy of the warranty certificate shall be submitted with the bid package (No Exception).

COMPLY_____ EXCEPTION_____

VEHICLE STABILITY CERTIFICATION

The fire apparatus manufacturer shall provide a certification stating the apparatus complies with NFPA 1901, current edition, section 4.13, Vehicle Stability. The certification shall be provided at the time of bid.

COMPLY_____ EXCEPTION_____

ENGINE INSTALLATION CERTIFICATION

The fire apparatus manufacturer shall provide a certification, along with a letter from the engine manufacturer stating they approve of the engine installation in the bidder's chassis. The certification shall be provided at the time of delivery.

COMPLY_____ EXCEPTION_____

POWER STEERING CERTIFICATION

The fire apparatus manufacturer shall provide a certification stating the power steering system as installed meets the requirements of the component supplier. The certification shall be provided at the time of bid.

COMPLY_____ EXCEPTION_____

CAB INTEGRITY CERTIFICATION

The fire apparatus manufacturer shall provide a cab integrity certification at time of delivery. The certification shall state that a specimen representing the substantial structural configuration of the cab has been tested and certified by an independent third party test facility. Testing events shall be documented with photographs, real-time and high-speed video, vehicle accelerometers, cart accelerometers, and a laser speed trap. The fire apparatus manufacturer shall provide a state licensed professional engineer to witness and certify all testing events. Testing shall meet or exceed the requirements below:

- European Occupant Protection Standard ECE Regulation No.29.

- SAE J2422 Cab Roof Strength Evaluation - Quasi-Static Loading Heavy Trucks.

- SAE J2420 COE Frontal Strength Evaluation - Dynamic Loading Heavy Trucks.

- Roof Crush

  The cab shall be subjected to a roof crush force of 22,500 lb. This value meets the ECE 29 criteria, and is equivalent to the front axle rating up to a maximum of ten (10) metric tons.

- Side Impact

  The same cab shall be subjected to dynamic preload where a 13,275-lb moving barrier is slammed into the side of the cab at 5.50 mph, striking with an impact of 13,000 ft-lb of force.

This test is part of the SAE J2422 test procedure and more closely represents the forces a cab shall see in a rollover incident.

- Frontal Impact

The same cab shall withstand a frontal impact of 32,600 ft-lb of force using a moving barrier in accordance with SAE J2420.

- Additional Frontal Impact

The same cab shall withstand a frontal impact of 65,200 ft-lb of force using a moving barrier. (Twice the force required by SAE J2420)

The same cab shall withstand all tests without any measurable intrusion into the survival space of the occupant area.

There shall be no exception to any portion of the cab integrity certification. Nonconformance shall lead to immediate rejection of bid.

COMPLY_____ EXCEPTION_____

CAB DOOR DURABILITY CERTIFICATION

Robust cab doors help protect occupants. Cab doors shall survive a 200,000 cycle door slam test where the slamming force exceeds 20 G's of deceleration. The bidder shall certify, at time of delivery, that the sample doors similar to those provided on the apparatus have been tested and have met these criteria without structural damage, latch malfunction, or significant component wear.

COMPLY_____ EXCEPTION_____

WINDSHIELD WIPER DURABILITY CERTIFICATION

Visibility during inclement weather is essential to safe apparatus performance. Windshield wipers shall survive a 3 million cycle durability test in accordance with section 6.2 of SAE J198 Windshield Wiper Systems - Trucks, Buses and Multipurpose Vehicles. The bidder shall certify, at time of delivery, that the wiper system design has been tested and that the wiper system has met these criteria.

COMPLY_____ EXCEPTION_____

SEAT BELT ANCHOR STRENGTH

Seat belt attachment strength is regulated by Federal Motor Vehicle Safety Standards and should be validated through testing. Each seat belt anchor design shall withstand 3000 lb of pull on both the lap and shoulder belt in accordance with FMVSS 571.210 Seat Belt Assembly Anchorages.

The bidder shall certify, at time of delivery, that each anchor design was pull tested to the required force and met the appropriate criteria.

COMPLY_____ EXCEPTION_____

SEAT MOUNTING STRENGTH

Seat attachment strength is regulated by Federal Motor Vehicle Safety Standards and should be validated through testing. Each seat mounting design shall be tested to withstand 20 G's of force in accordance with FMVSS 571.207 Seating Systems. The bidder shall certify, at time of delivery, that each seat mount and cab structure design was pull tested to the required force and met the appropriate criteria.

COMPLY_____ EXCEPTION_____

CAB DEFROSTER CERTIFICATION

Visibility during inclement weather is essential to safe apparatus performance. The defroster system shall clear the required windshield zones in accordance with SAE J381 Windshield Defrosting Systems Test Procedure and Performance Requirements - Trucks, Buses, And Multipurpose Vehicles. The bidder shall certify, at time of delivery, that the defrost system design has been tested in a cold chamber and passes the SAE J381 criteria.

COMPLY_____ EXCEPTION_____

CAB HEATER CERTIFICATION

Good cab heat performance and regulation provides a more effective working environment for personnel, whether in-transit, or at a scene. The cab heaters shall warm the cab 77 degrees Fahrenheit from a cold-soak, within 30 minutes when tested using the coolant supply methods found in SAE J381. The bidder shall certify, at time of delivery, that a substantially similar cab has been tested and has met these criteria.

COMPLY_____ EXCEPTION_____

CAB AIR CONDITIONING PERFORMANCE CERTIFICATION

Good cab air conditioning temperature and air flow performance keeps occupants comfortable, reduces humidity, and provides a climate for recuperation while at the scene. The cab air conditioning system shall cool the cab from a heat-soaked condition at 100 degrees Fahrenheit to an average of 78 degrees Fahrenheit in 30 minutes. The bidder shall certify, at time of delivery, that a substantially similar cab has been tested and has met these criteria.

COMPLY_____ EXCEPTION_____

AMP DRAW REPORT

The bidder shall provide, at the time of bid and delivery, an itemized print out of the expected amp draw of the entire vehicle's electrical system.

The manufacturer of the apparatus shall provide the following:

Å Documentation of the electrical system performance tests.

Å A written load analysis, which shall include the following:

- The nameplate rating of the alternator.
- The alternator rating under the conditions specified per:
  - Applicable NFPA 1901 or 1906 (Current Edition).
- The minimum continuous load of each component that is specified per:
  - Applicable NFPA 1901 or 1906 (Current Edition).
- Additional loads that, when added to the minimum continuous load, determine the total connected load.
- Each individual intermittent load.

All of the above listed items shall be provided by the bidder per the applicable NFPA 1901 or 1906 (Current Edition).

COMPLY_____ EXCEPTION_____

BID EVALUATION

Bids will be evaluated using the following criteria:

Cost of bid.

Compliance with our specifications.

Delivery Date.

Operation and maintenance cost of equipment.

Life cycle cost of equal equipment.

Performance of equipment in actual operating conditions.

Availability of parts and service.

Prior experience with vendor and their product.

INFORMATION

Any questions concerning the above specifications contact:

XXXXX XXXXXX,

XXXXX XXXXXX

Phone:

E-mail:

The above is true and accurate. I have read and understand the above listed terms and conditions.

Signature of Officer_____

Printed Name of Officer _____

Title_____

Company Name_____

Date_____

VENDORÕS NAME & ADDRESS

_____

_____

Item #	Quantity	Description	Total
1.	1 Each	1500 GPM Pumper for the Dept. of Fire, as per the specifications	

_____($) $_____
Total Base Price of Truck Figures Ext. Figures

_____($) $_____
Total Price of Loose Equipment Figures Ext. Figures

_____($) $_____
All Loose Equipment + Truck Figures Ext. Figures

Manufacturer & Model #_____